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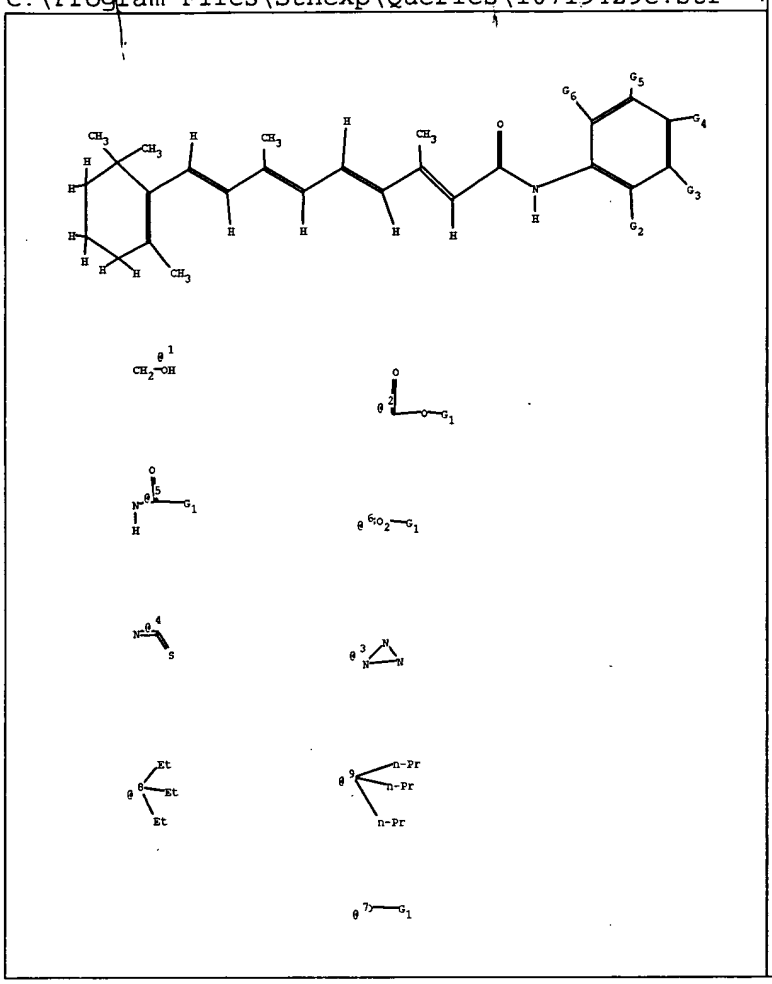
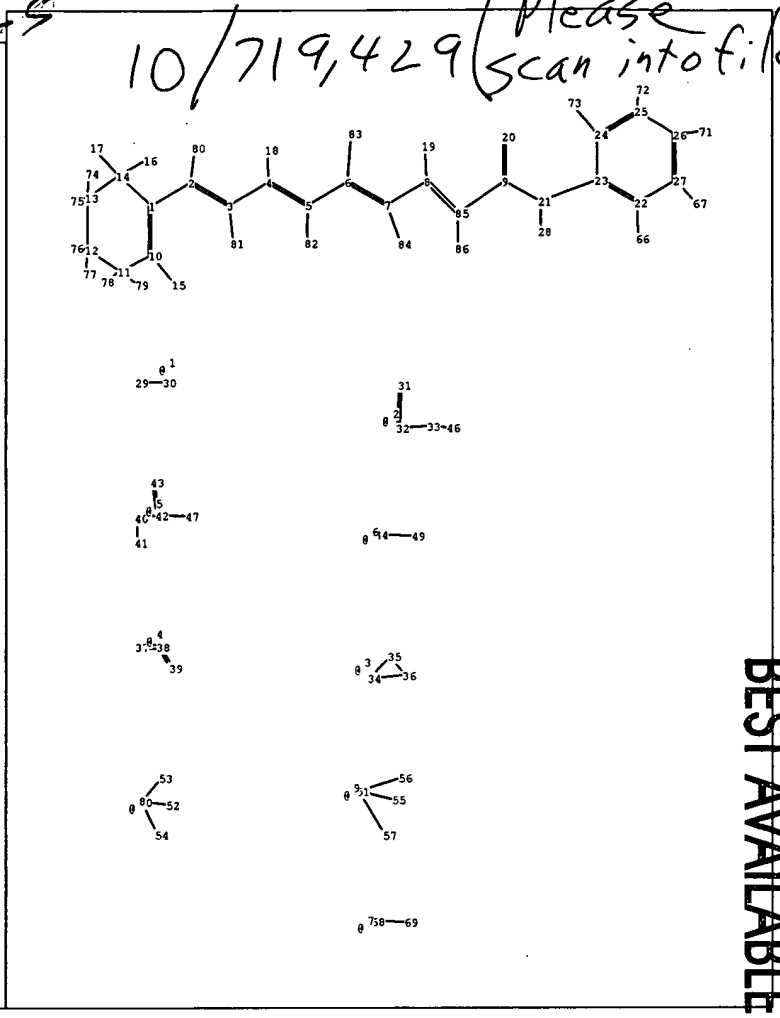
10/719,429 (Please scan into file)





chain nodes :
2 3 4 5 6 7 8 9 15 16 17 18 19 20 21 28 29 30 31 32 33 37 38 39
40 41 42 43 44 46 47 49 50 51 52 53 54 55 56 57 66 67 68 69 71 72
73 74 75 76 77 78 79 80 81 82 83 84 85 86
ring nodes :
1 10 11 12 13 14 22 23 24 25 26 27 34 35 36
chain bonds :
1-2 2-3 2-80 3-4 3-81 4-5 4-18 5-6 5-82 6-7 6-83 7-8 7-84 8-19 8-85 9-21
9-20 9-85 10-15 11-78 11-79 12-76 12-77 13-74 13-75 14-16 14-17 21-23 21-28
22-66 24-73 25-72 26-71 27-67 29-30 31-32 32-33 33-46 37-38 38-39 40-41 40-42
42-43 42-47 44-49 50-52 50-53 50-54 51-55 51-56 51-57 68-69 85-86
ring bonds :
1-14 1-10 10-11 11-12 12-13 13-14 22-23 22-27 23-24 24-25 25-26 26-27 34-35
34-36 35-36
exact/norm bonds :
1-14 1-10 9-21 9-20 10-11 11-12 12-13 13-14 21-23 22-66 24-73 25-72 26-71
27-67 31-32 32-33 33-46 34-35 34-36 35-36 37-38 38-39 40-42 42-43 42-47 44-49
68-69
exact bonds :
1-2 2-3 2-80 3-4 3-81 4-5 4-18 5-6 5-82 6-7 6-83 7-8 7-84 8-19 8-85 9-85
10-15 11-78 11-79 12-76 12-77 13-74 13-75 14-16 14-17 21-28 29-30 40-41 50-52
50-53 50-54 51-55 51-56 51-57 85-86
normalized bonds :
22-23 22-27 23-24 24-25 25-26 26-27

G1:H,Et,CH3,n-Pr,n-Bu

G2:H,OH,NO2,X,CH3,Et,n-Pr,n-Bu,[*1]

G3:H,OH,NO2,X,CH3,Et,n-Pr,n-Bu,[*1],[*2]

G4:H,X,NO2,CH3,Et,n-Pr,n-Bu,[*3],[*4],[*5],[*6],[*7]

G5:H,NO2,X,CH3,Et,n-Pr,n-Bu,[*2],[*8],[*9]

G6:H,X,CH3,Et,n-Pr,n-Bu,[*2]

Match level :

1:Atom 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS 10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:CLASS 16:CLASS 17:CLASS 18:CLASS 19:CLASS
20:CLASS 21:CLASS 22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:CLASS
29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:Atom 35:Atom 36:Atom 37:CLASS
38:CLASS 39:CLASS 40:CLASS 41:CLASS 42:CLASS 43:CLASS 44:CLASS 46:CLASS 47:CLASS
49:CLASS 50:CLASS 51:CLASS 52:CLASS 53:CLASS 54:CLASS 55:CLASS 56:CLASS 57:CLASS
66:CLASS 67:CLASS 68:CLASS 69:CLASS 71:CLASS 72:CLASS 73:CLASS 74:CLASS 75:CLASS
76:CLASS 77:CLASS 78:CLASS 79:CLASS 80:CLASS 81:CLASS 82:CLASS 83:CLASS 84:CLASS
85:CLASS 86:CLASS

```
Welcome to STN International!  Enter x:x

LOGINID:ssspta1129pxo

PASSWORD:
 * * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
SESSION RESUMED IN FILE 'CAPLUS' AT 20:19:41 ON 16 MAR 2005
FILE 'CAPLUS' ENTERED AT 20:19:41 ON 16 MAR 2005
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COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.45     170.16

=>
Uploading C:\Program Files\Stnexp\Queries\10719429.str


=> file reg
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     6.30     176.01

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STRUCTURE FILE UPDATES:   15 MAR 2005  HIGHEST RN 845699-17-4
DICTIONARY FILE UPDATES:  15 MAR 2005  HIGHEST RN 845699-17-4

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=>
Uploading C:\Program Files\Stnexp\Queries\10719429c.str

L5      STRUCTURE UPLOADED

=> s l5
SAMPLE SEARCH INITIATED 20:28:00 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -     18 TO ITERATE

100.0% PROCESSED      18 ITERATIONS                          3 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**


Page 1
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                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:           106 TO      614
PROJECTED ANSWERS:                3 TO      163

L6            3 SEA SSS SAM L5

=> search l5
ENTER TYPE OF SEARCH (SSS), CSS, FAMILY, OR EXACT:.
ENTER SCOPE OF SEARCH (SAMPLE), FULL, RANGE, OR SUBSET:full
FULL SEARCH INITIATED 20:28:07 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -    424 TO ITERATE

100.0% PROCESSED     424 ITERATIONS                          60 ANSWERS
SEARCH TIME: 00.00.01

L7           60 SEA SSS FUL L5

=> file caplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   161.76     337.77

FILE 'CAPLUS' ENTERED AT 20:28:12 ON 16 MAR 2005
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FILE COVERS 1907 - 16 Mar 2005  VOL 142 ISS 12
FILE LAST UPDATED: 15 Mar 2005  (20050315/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> s l7
L8          598 L7

=> file reg
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.45     338.22

FILE 'REGISTRY' ENTERED AT 20:28:27 ON 16 MAR 2005
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provided by InfoChem.
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STRUCTURE FILE UPDATES: 15 MAR 2005 HIGHEST RN 845699-17-4
DICTIONARY FILE UPDATES: 15 MAR 2005 HIGHEST RN 845699-17-4

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

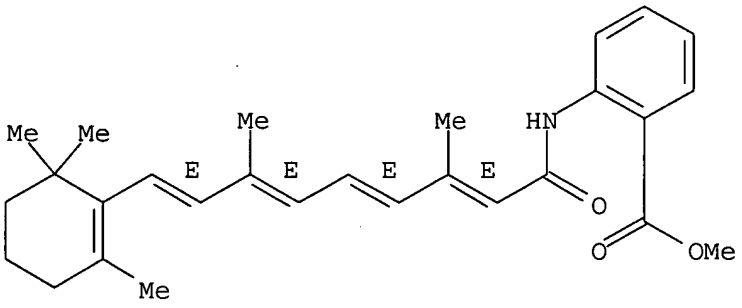
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> d l7 1-60

L7 ANSWER 1 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-85-8 REGISTRY
CN Benzoic acid, 2-[(15-oxoretin-15-yl)amino]-, methyl ester (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C28 H35 N O3
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.



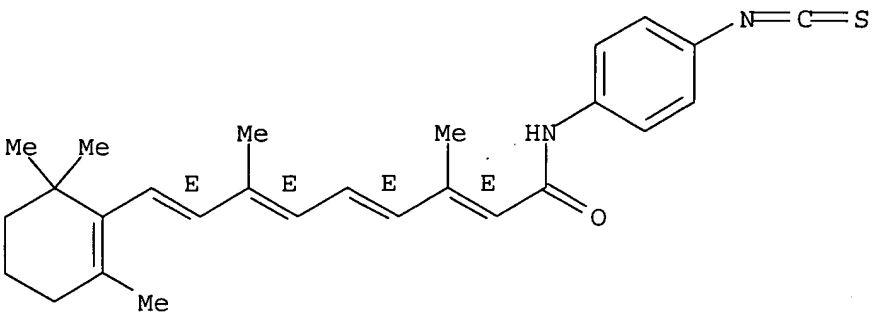
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 2 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-81-4 REGISTRY
CN Retinamide, N-(4-isothiocyanatophenyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C27 H32 N2 O S
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES

(Uses)

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 3 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-77-8 REGISTRY
CN Retinamide, N-[4-(acetylamino)phenyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C28 H36 N2 O2
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

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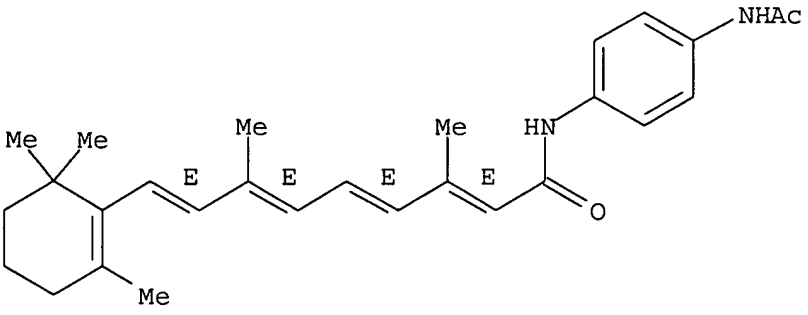

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 4 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-75-6 REGISTRY
CN Retinamide, N-[3-(hydroxymethyl)phenyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C27 H35 N O2

SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

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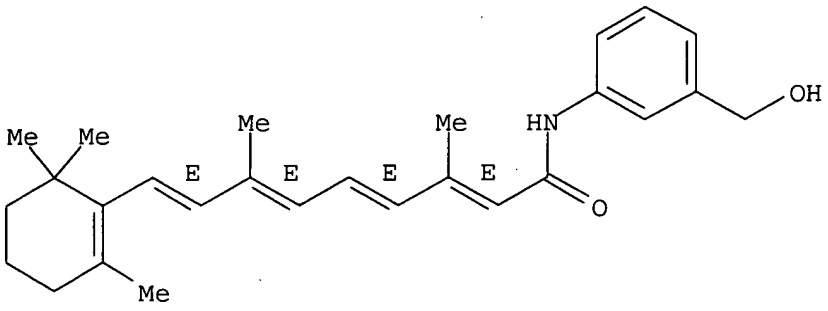

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 5 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-74-5 REGISTRY
CN Retinamide, N-[2-(hydroxymethyl)phenyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C27 H35 N O2
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

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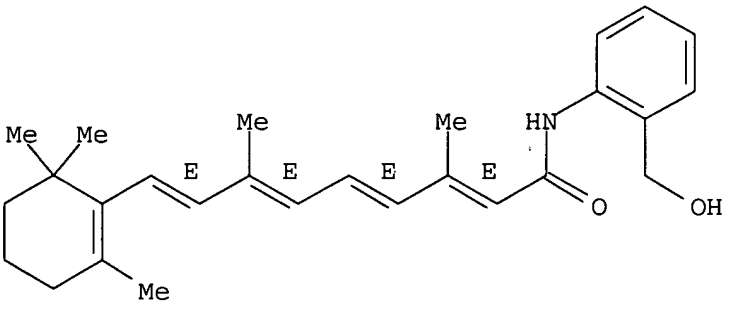

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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 6 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN

RN 485396-73-4 REGISTRY
CN Retinamide, N-[4-(ethylsulfonyl)-2-hydroxyphenyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C28 H37 N O4 S
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

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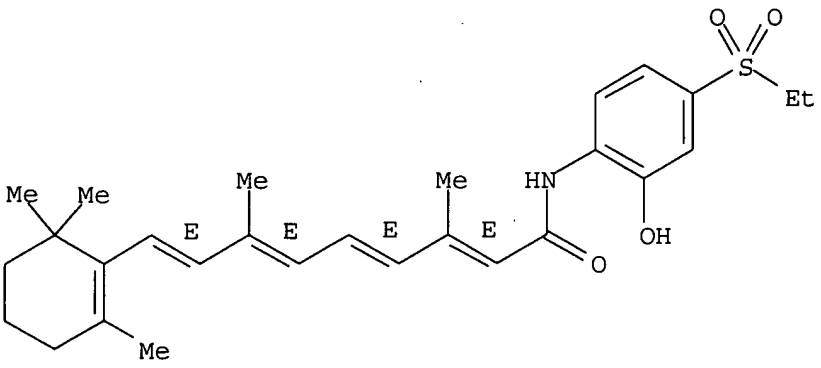
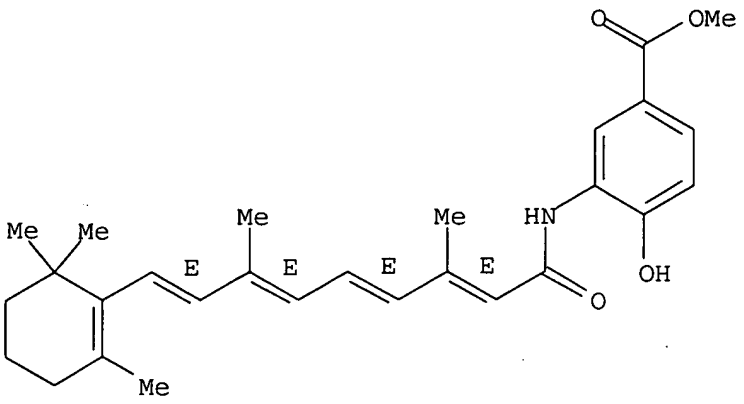


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 7 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-72-3 REGISTRY
CN Benzoic acid, 4-hydroxy-3-(retinoylamino)-, methyl ester (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C28 H35 N O4
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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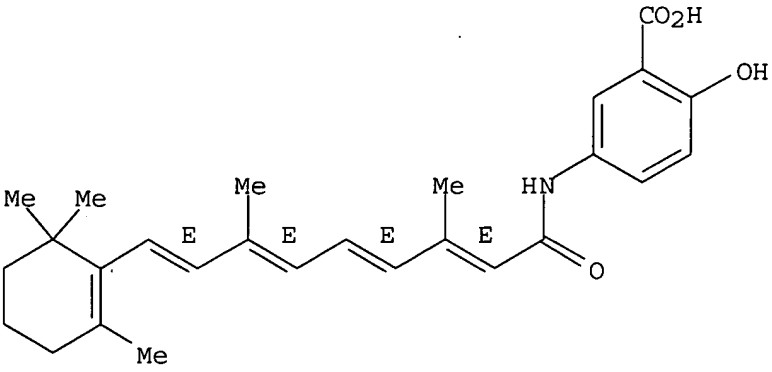
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 8 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-71-2 REGISTRY
CN Benzoic acid, 2-hydroxy-5-[(15-oxoretin-15-yl)amino]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C27 H33 N O4
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.



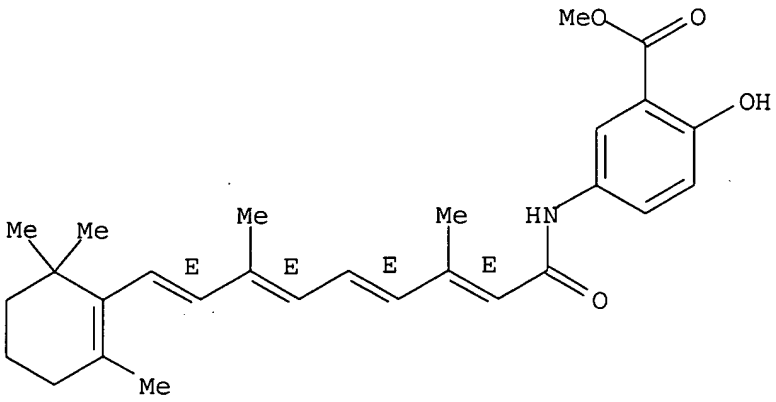
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 9 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-70-1 REGISTRY
CN Benzoic acid, 2-hydroxy-5-[(15-oxoretin-15-yl)amino]-, methyl ester (9CI)

(CA INDEX NAME)
FS STEREOSEARCH
MF C28 H35 N O4
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 10 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-68-7 REGISTRY
CN Benzoic acid, 3-hydroxy-2-[(15-oxoretin-15-yl)amino]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C27 H33 N O4
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

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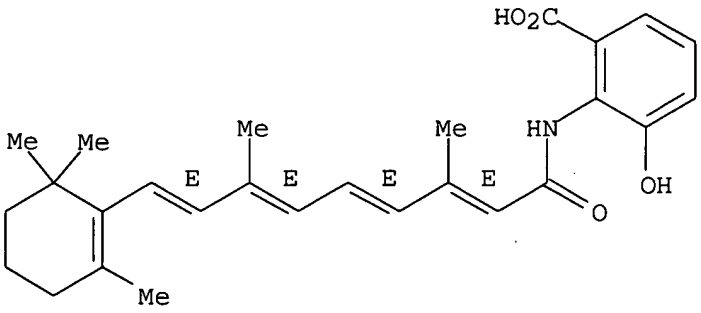
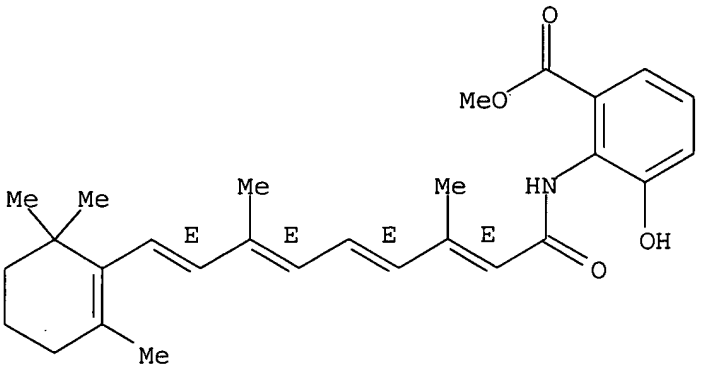


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 11 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-66-5 REGISTRY
CN Benzoic acid, 3-hydroxy-2-[(15-oxoretin-15-yl)amino]-, methyl ester (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C28 H35 N O4
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 12 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-64-3 REGISTRY
CN Benzoic acid, 2-hydroxy-3-[(15-oxoretin-15-yl)amino]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C27 H33 N O4
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

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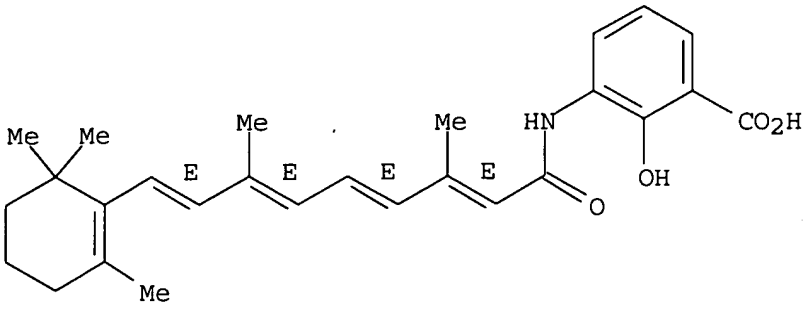

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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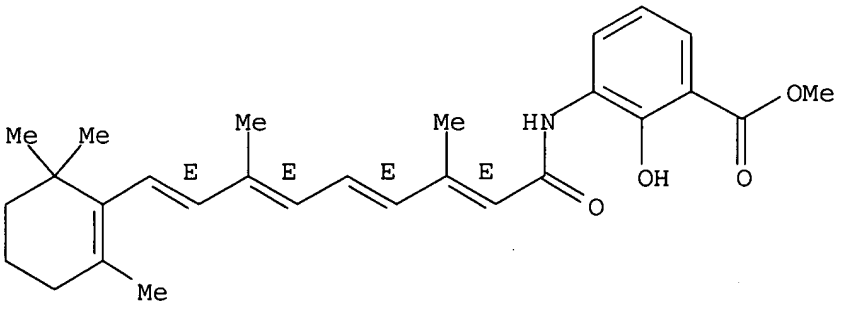
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 13 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-63-2 REGISTRY
CN Benzoic acid, 2-hydroxy-3-[(15-oxoretin-15-yl)amino]-, methyl ester (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C28 H35 N O4
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.



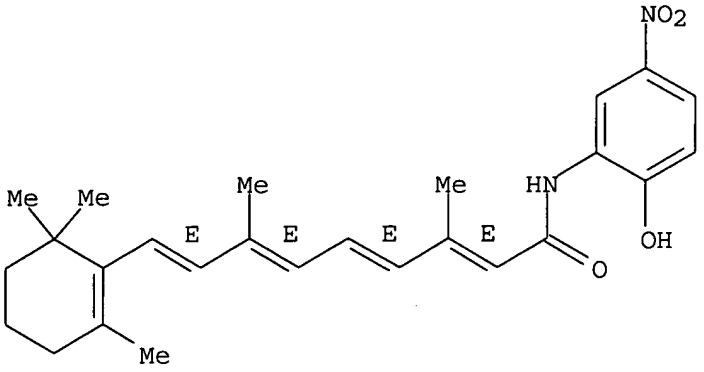
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 14 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-62-1 REGISTRY
CN Retinamide, N-(2-hydroxy-5-nitrophenyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C26 H32 N2 O4
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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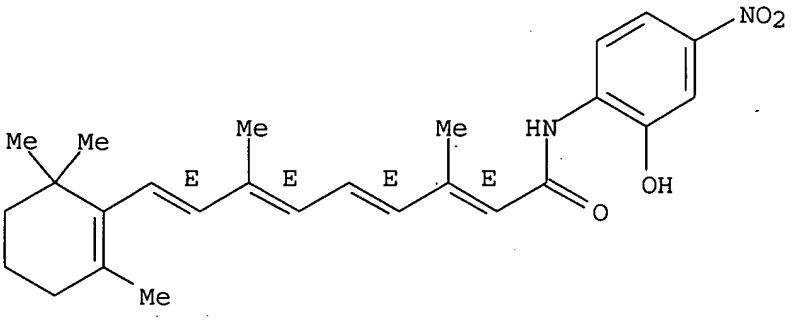
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 15 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-61-0 REGISTRY
CN Retinamide, N-(2-hydroxy-4-nitrophenyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C26 H32 N2 O4
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.



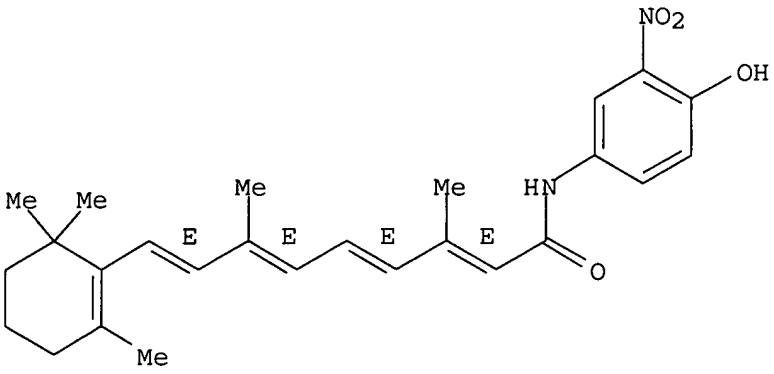
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 16 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-60-9 REGISTRY

CN Retinamide, N-(4-hydroxy-3-nitrophenyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C26 H32 N2 O4
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.

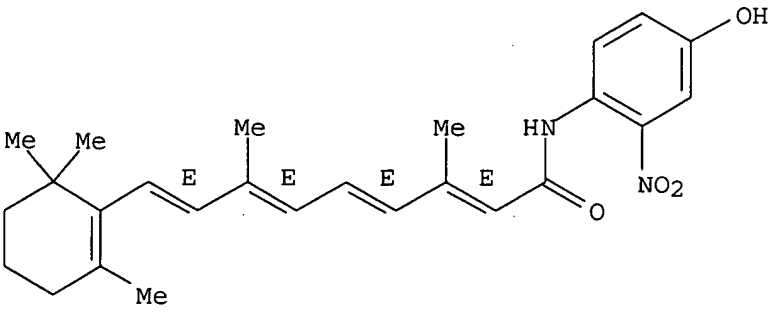


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 17 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-59-6 REGISTRY
CN Retinamide, N-(4-hydroxy-2-nitrophenyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C26 H32 N2 O4
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.

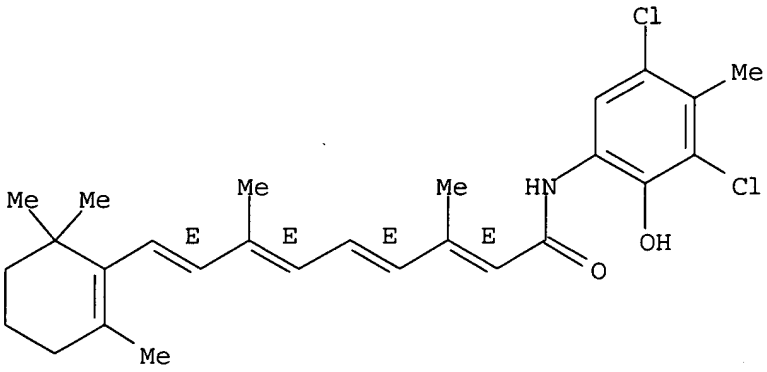


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 18 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-58-5 REGISTRY
CN Retinamide, N-(3,5-dichloro-2-hydroxy-4-methylphenyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C27 H33 Cl2 N O2
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.

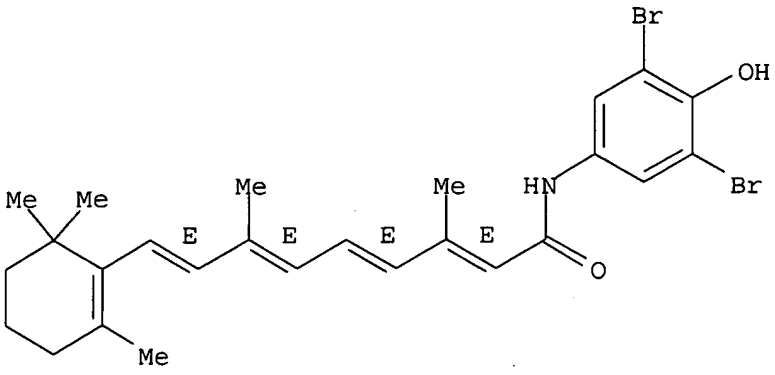


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 19 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-57-4 REGISTRY
CN Retinamide, N-(3,5-dibromo-4-hydroxyphenyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C26 H31 Br2 N O2
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.

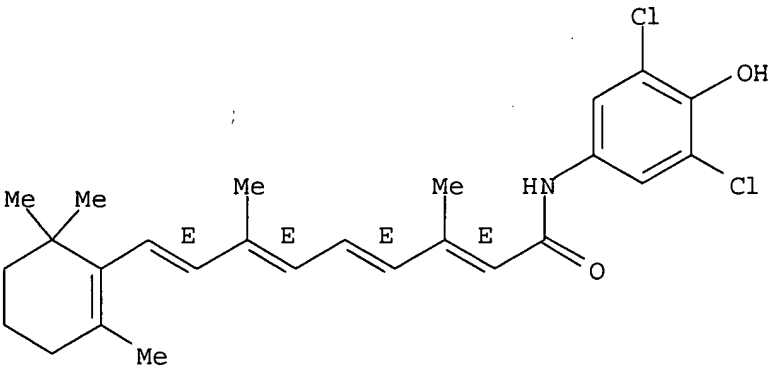


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 20 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-56-3 REGISTRY
CN Retinamide, N-(3,5-dichloro-4-hydroxyphenyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C26 H31 Cl2 N O2
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.



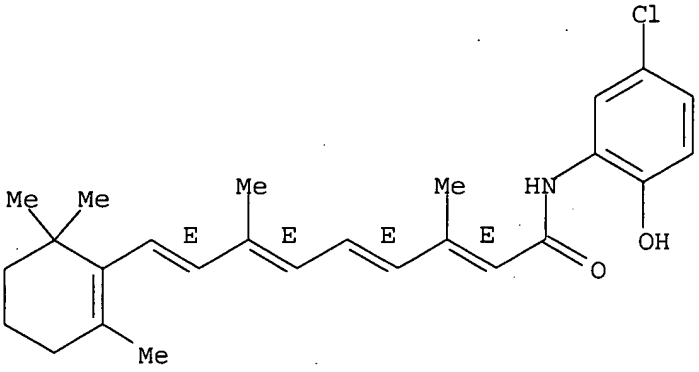
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 21 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-55-2 REGISTRY
CN Retinamide, N-(5-chloro-2-hydroxyphenyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C26 H32 Cl N O2

SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.

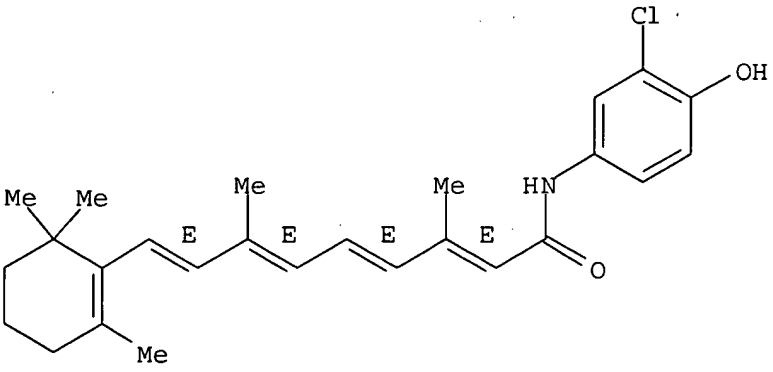


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 22 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-54-1 REGISTRY
CN Retinamide, N-(3-chloro-4-hydroxyphenyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C26 H32 Cl N O2
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.

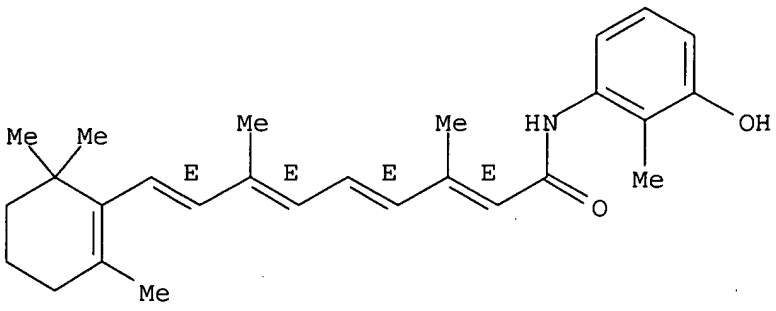


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 23 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-53-0 REGISTRY
CN Retinamide, N-(3-hydroxy-2-methylphenyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C27 H35 N O2
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.

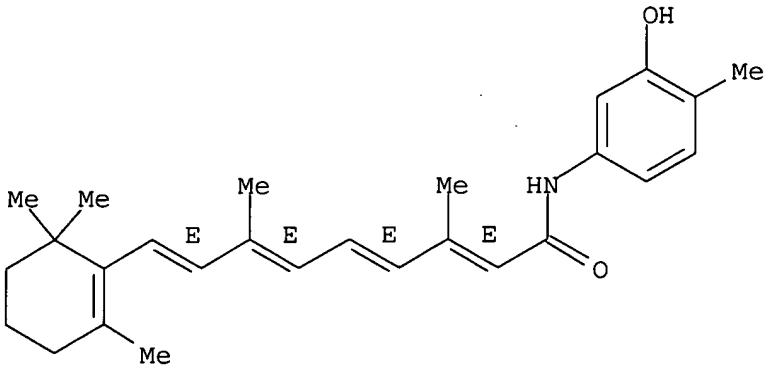


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 24 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-52-9 REGISTRY
CN Retinamide, N-(3-hydroxy-4-methylphenyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C27 H35 N O2
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.

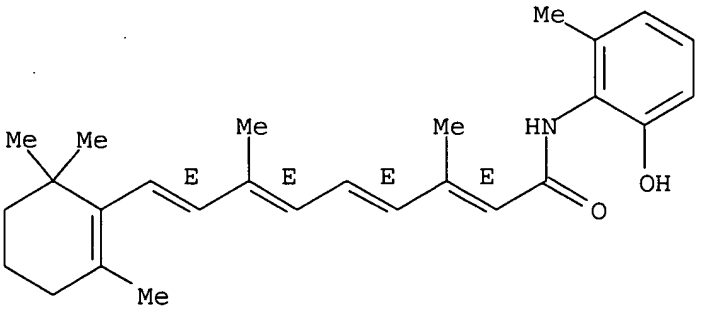


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 25 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-51-8 REGISTRY
CN Retinamide, N-(2-hydroxy-6-methylphenyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C27 H35 N O2
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.



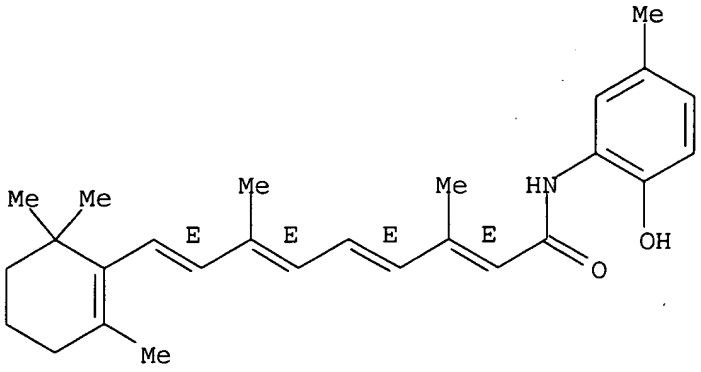
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 26 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-49-4 REGISTRY
CN Retinamide, N-(2-hydroxy-5-methylphenyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C27 H35 N O2
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL

DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.

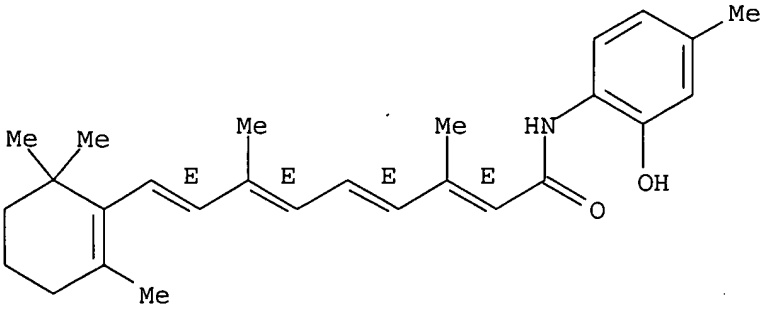


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 27 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-48-3 REGISTRY
CN Retinamide, N-(2-hydroxy-4-methylphenyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C27 H35 N O2
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.



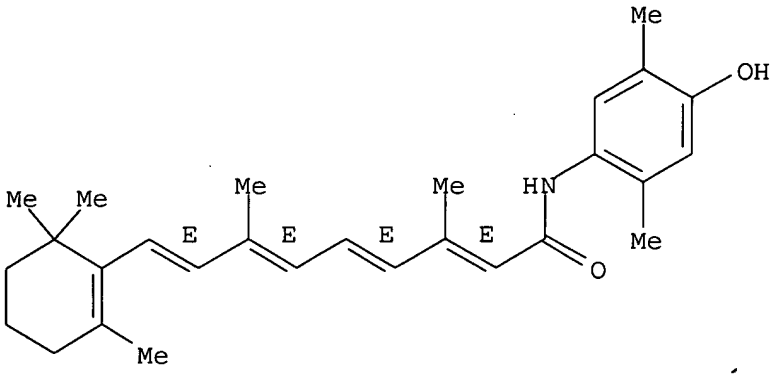
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 28 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN

RN 485396-47-2 REGISTRY
CN Retinamide, N-(4-hydroxy-2,5-dimethylphenyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C28 H37 N O2
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.

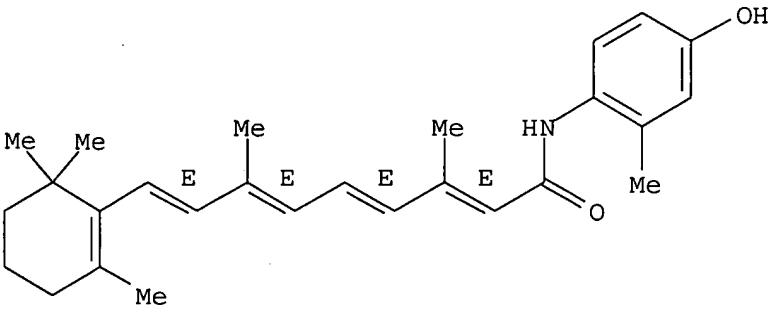


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 29 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 485396-46-1 REGISTRY
CN Retinamide, N-(4-hydroxy-2-methylphenyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C27 H35 N O2
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.

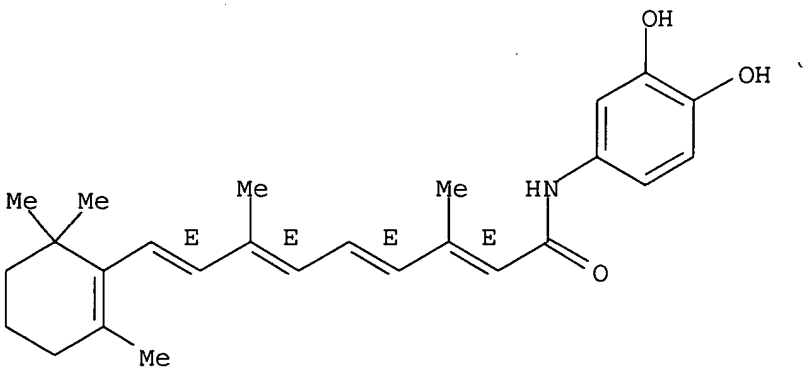


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 30 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 477559-66-3 REGISTRY
CN Retinamide, N-(3,4-dihydroxyphenyl)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN KYJ 3-020
FS STEREOSEARCH
MF C26 H33 N O3
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

Double bond geometry as shown.

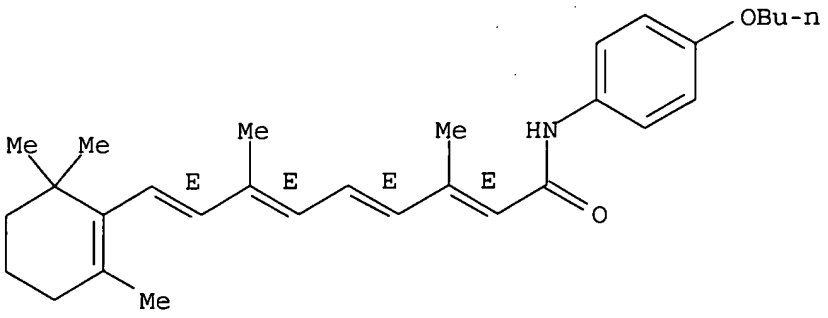


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 31 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 477559-63-0 REGISTRY
CN Retinamide, N-(4-butoxyphenyl)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN KCBG 56
FS STEREOSEARCH
MF C30 H41 N O2
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.

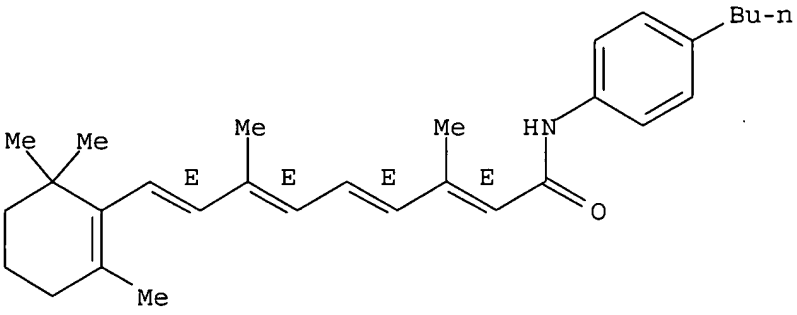


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 32 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 477559-62-9 REGISTRY
CN Retinamide, N-(4-butylphenyl)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN KCBG 55
FS STEREOSEARCH
MF C30 H41 N O
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.



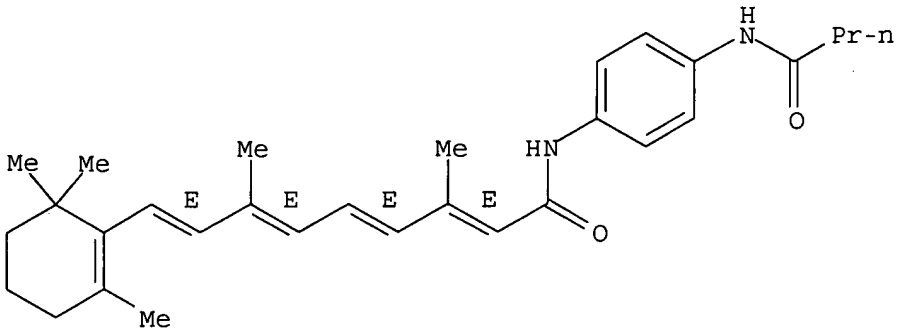
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 33 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 477559-48-1 REGISTRY
CN Retinamide, N-[4-[(1-oxobutyl)amino]phenyl]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN KCBG 40
FS STEREOSEARCH
MF C30 H40 N2 O2

SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.

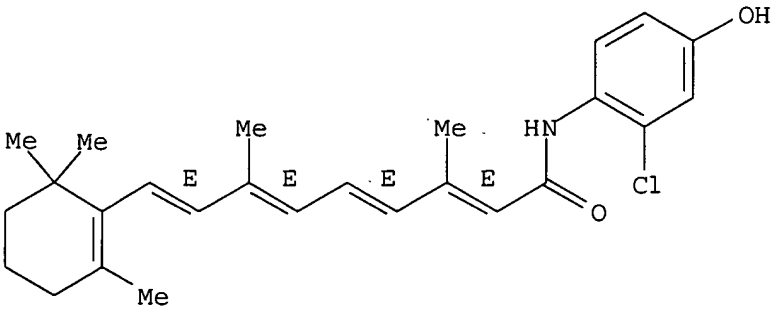


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 34 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 477559-41-4 REGISTRY
CN Retinamide, N-(2-chloro-4-hydroxyphenyl)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN KCBG 27
FS STEREOSEARCH
MF C26 H32 Cl N O2
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

Double bond geometry as shown.



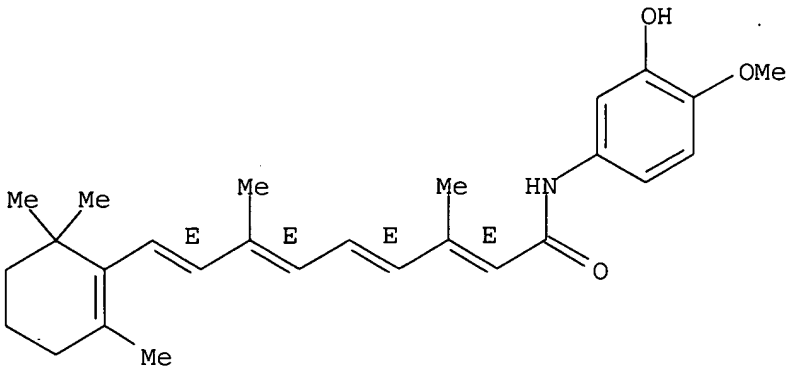
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)

2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 35 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 477559-39-0 REGISTRY
CN Retinamide, N-(3-hydroxy-4-methoxyphenyl)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN KCBG 25
FS STEREOSEARCH
MF C27 H35 N O3
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

Double bond geometry as shown.

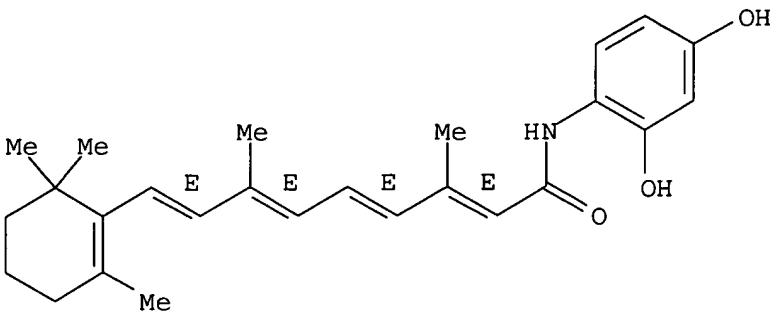


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 36 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 477559-28-7 REGISTRY
CN Retinamide, N-(2,4-dihydroxyphenyl)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN KCBG 08
FS STEREOSEARCH
MF C26 H33 N O3
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

Double bond geometry as shown.

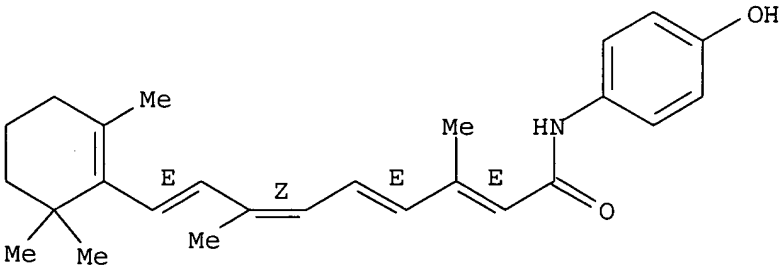


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 37 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 231301-45-4 REGISTRY
CN Retinamide, N-(4-hydroxyphenyl)-, 9-cis- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C26 H33 N O2
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: BIOL (Biological study); USES (Uses)

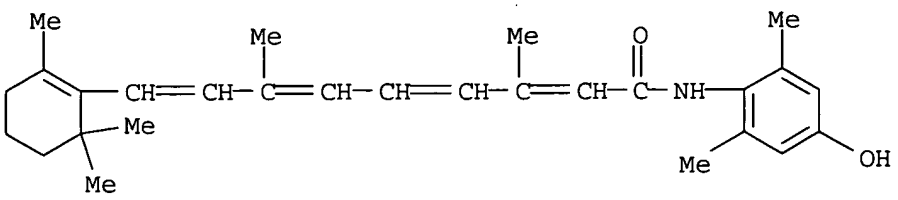
Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

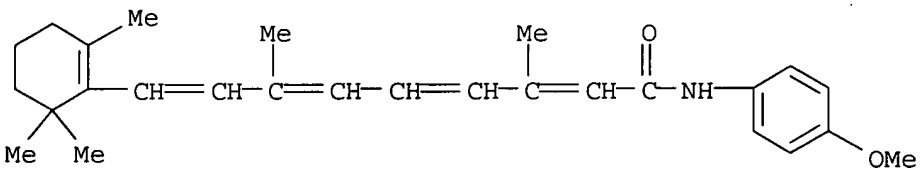
L7 ANSWER 38 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 142341-73-9 REGISTRY
CN Retinamide, N-(4-hydroxy-2,6-dimethylphenyl)- (9CI) (CA INDEX NAME)
MF C28 H37 N O2
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

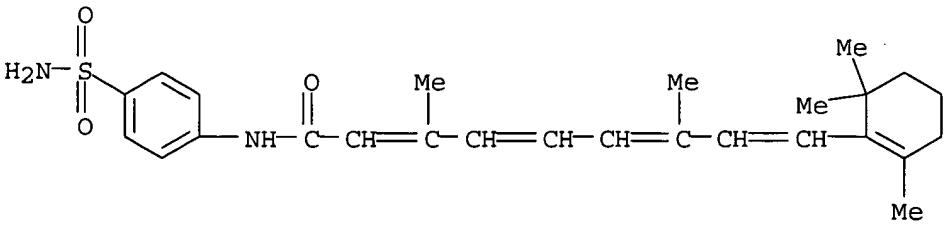
L7 ANSWER 39 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 96647-04-0 REGISTRY
CN Retinamide, N-(4-methoxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN N-(4-Methoxyphenyl)-13-cis-retinamide
MF C27 H35 N O2
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: ANST (Analytical study)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

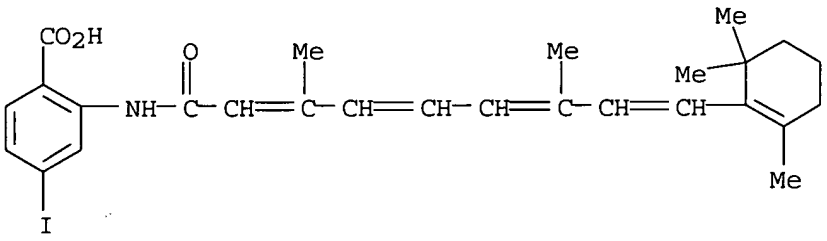
L7 ANSWER 40 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 93449-27-5 REGISTRY
CN Retinamide, N-[4-(aminosulfonyl)phenyl]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN R 81001
MF C26 H34 N2 O3 S
LC STN Files: CA, CANCERLIT, CAPLUS, MEDLINE, SPECINFO, TOXCENTER
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: BIOL (Biological study)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

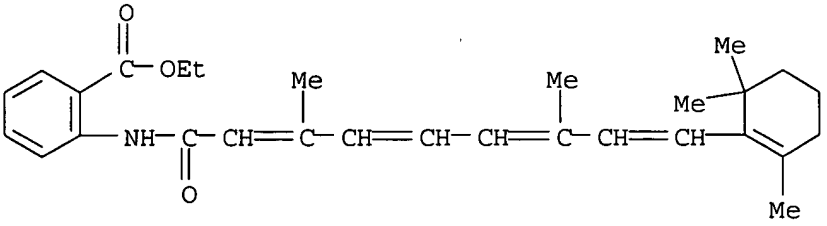
L7 ANSWER 41 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 80850-64-2 REGISTRY
CN Retinamide, N-(2-carboxy-5-iodophenyl)- (9CI) (CA INDEX NAME)
MF C27 H32 I N O3
LC STN Files: CA, CAPLUS, TOXCENTER
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 42 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 80850-63-1 REGISTRY
CN Retinamide, N-[2-(ethoxycarbonyl)phenyl]- (9CI) (CA INDEX NAME)
MF C29 H37 N O3
LC STN Files: CA, CAPLUS, TOXCENTER
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation)

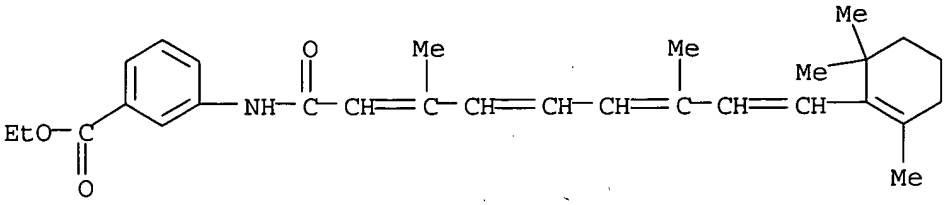


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 43 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 80850-62-0 REGISTRY
CN Retinamide, N-[3-(ethoxycarbonyl)phenyl]- (9CI) (CA INDEX NAME)
MF C29 H37 N O3

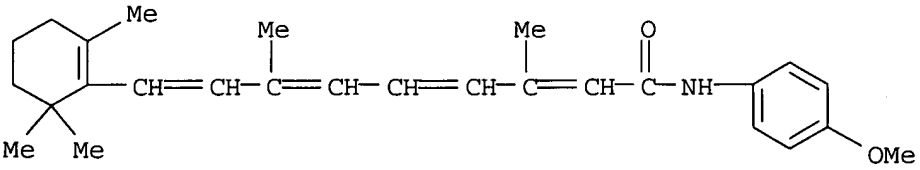
LC STN Files: CA, CAPLUS, TOXCENTER
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 44 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 79965-10-9 REGISTRY
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN N-(4-Methoxyphenyl)-all-trans-retinamide
CN N-(4-Methoxyphenyl)retinamide
CN N-(p-Methoxyphenyl)retinamide
MF C27 H35 N O2
LC STN Files: BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, EMBASE, MEDLINE, TOXCENTER, USPATFULL
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: PREP (Preparation)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); USES (Uses)

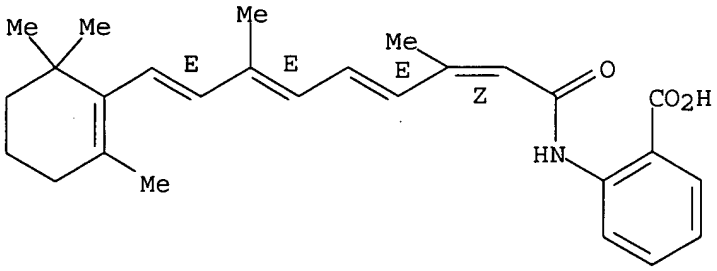


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

33 REFERENCES IN FILE CA (1907 TO DATE)
33 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 45 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 75918-50-2 REGISTRY
CN Retinamide, N-(2-carboxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C27 H33 N O3
LC STN Files: CA, CAPLUS, TOXCENTER
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation)

Double bond geometry as shown.

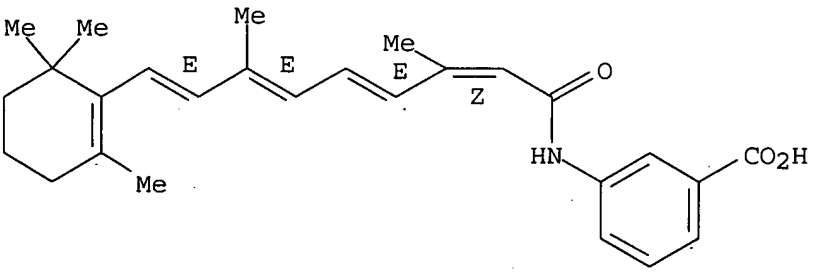


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 46 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 75918-49-9 REGISTRY
CN Retinamide, N-(3-carboxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C27 H33 N O3
LC STN Files: CA, CAPLUS, TOXCENTER
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation)

Double bond geometry as shown.



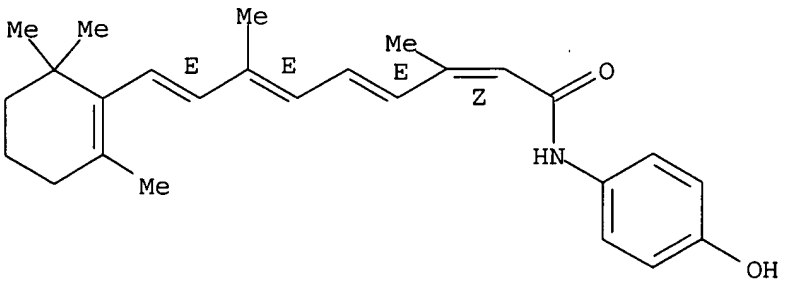
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 47 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 75686-07-6 REGISTRY
CN Retinamide, N-(4-hydroxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 13-cis-Fenretinide
CN 13-cis-N-(4-Hydroxyphenyl)retinamide
CN WH 13
FS STEREOSEARCH
MF C26 H33 N O2
LC STN Files: ADISINSIGHT, BEILSTEIN*, BIOSIS, BIOTECHNO, CA, CAPLUS, EMBASE, SPECINFO, TOXCENTER, USPATFULL

(*File contains numerically searchable property data)
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: PREP (Preparation)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent)

Double bond geometry as shown.

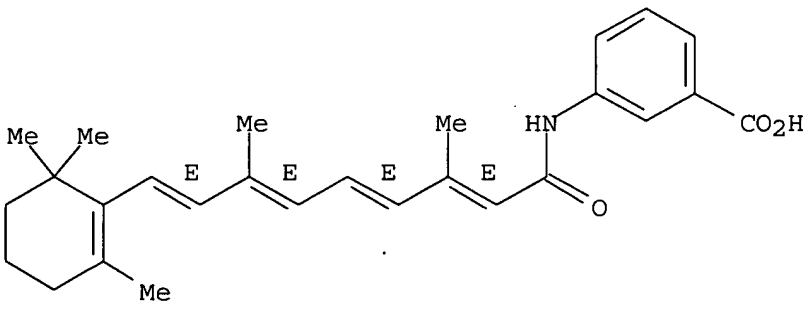


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

19 REFERENCES IN FILE CA (1907 TO DATE)
19 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 48 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 75664-78-7 REGISTRY
CN Retinamide, N-(3-carboxyphenyl)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN N-(3-Carboxyphenyl)retinamide
FS STEREOSEARCH
MF C27 H33 N O3
LC STN Files: BIOSIS, CA, CAPLUS, CSCHEM, TOXCENTER
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: PREP (Preparation)
RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.

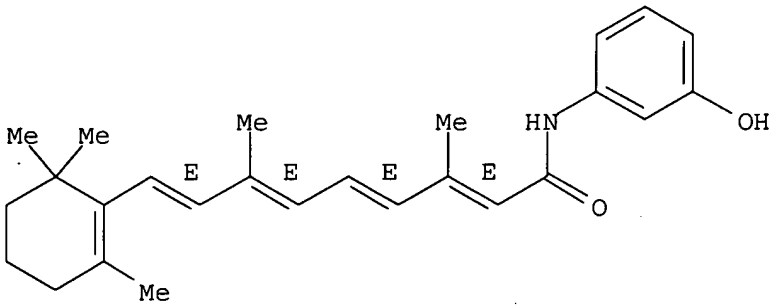


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

9 REFERENCES IN FILE CA (1907 TO DATE)
9 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 49 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 75664-76-5 REGISTRY
CN Retinamide, N-(3-hydroxyphenyl)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN N-(3-Hydroxyphenyl)retinamide
FS STEREOSEARCH
MF C26 H33 N O2
LC STN Files: BIOSIS, CA, CAPLUS, CSCHEM, TOXCENTER
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.

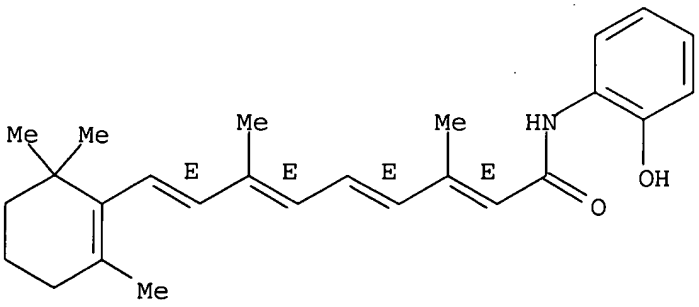


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

8 REFERENCES IN FILE CA (1907 TO DATE)
8 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 50 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 75664-75-4 REGISTRY
CN Retinamide, N-(2-hydroxyphenyl)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN N-(2-Hydroxyphenyl)-all-trans-retinamide
FS STEREOSEARCH
MF C26 H33 N O2
LC STN Files: CA, CAPLUS, CSCHEM, TOXCENTER
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)

Double bond geometry as shown.

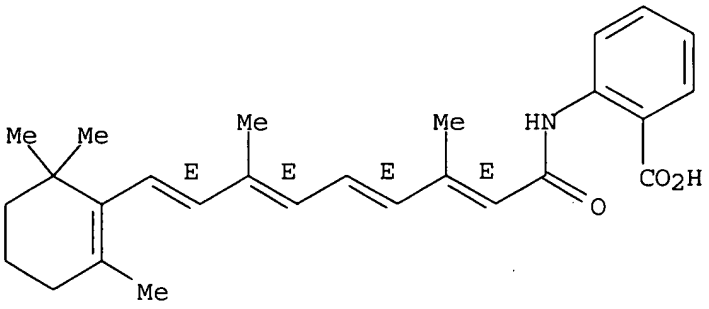


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

13 REFERENCES IN FILE CA (1907 TO DATE)
13 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 51 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 74193-16-1 REGISTRY
CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN N-(2-Carboxyphenyl)-all-trans-retinamide
CN N-(o-Carboxyphenyl)retinamide
FS STEREOSEARCH
MF C27 H33 N O3
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPAT2, USPATFULL
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)
RL.NP Roles from non-patents: BIOL (Biological study); USES (Uses)

Double bond geometry as shown.



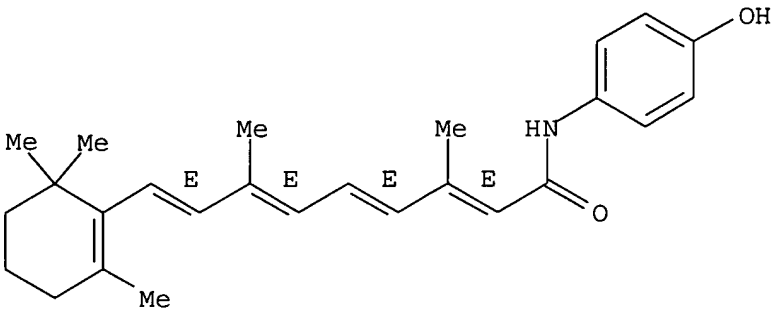
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

21 REFERENCES IN FILE CA (1907 TO DATE)
21 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 52 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 65646-68-6 REGISTRY
CN Retinamide, N-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN (4-Hydroxyphenyl)retinamide
CN 4-HPR
CN all-trans-4'-Hydroxyretinanilide
CN all-trans-N-(4-Hydroxyphenyl)retinamide
CN Fenretinide
CN N-(4-Hydroxyphenyl)-all-trans-retinamide
CN N-(4-Hydroxyphenyl)retinamide
CN Retinoic acid p-hydroxyphenylamide
CN Ro 22-4667
FS STEREOSEARCH
MF C26 H33 N O2
LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CASREACT, CHEMCATS, CSCHEM, DDFU, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IMSDRUGNEWS, IMSPATENTS, IMSRESEARCH, IPA, MEDLINE, MRCK*, PHAR, PROMT,

PROUSDDR, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, USAN, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: WHO
DT.CA CAplus document type: Conference; Dissertation; Journal; Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
RLD.P Roles for non-specific derivatives from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
RLD.NP Roles for non-specific derivatives from non-patents: FORM (Formation, nonpreparative); PROC (Process); PRP (Properties)

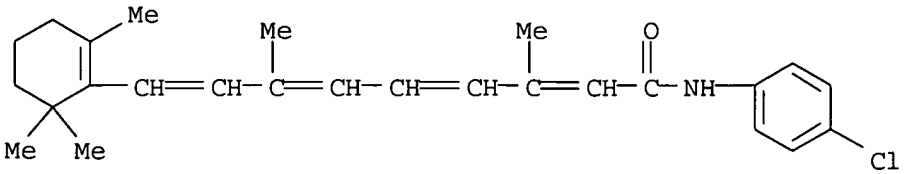
Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

578 REFERENCES IN FILE CA (1907 TO DATE)
6 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
579 REFERENCES IN FILE CAPLUS (1907 TO DATE)

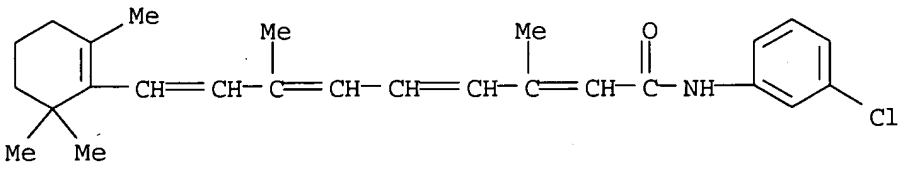
L7 ANSWER 53 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 53839-75-1 REGISTRY
CN Retinamide, N-(4-chlorophenyl)- (9CI) (CA INDEX NAME)
MF C26 H32 Cl N O
LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER
(*File contains numerically searchable property data)
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 54 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 53839-74-0 REGISTRY
CN Retinamide, N-(3-chlorophenyl)- (9CI) (CA INDEX NAME)
MF C26 H32 Cl N O
LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER
(*File contains numerically searchable property data)
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation)

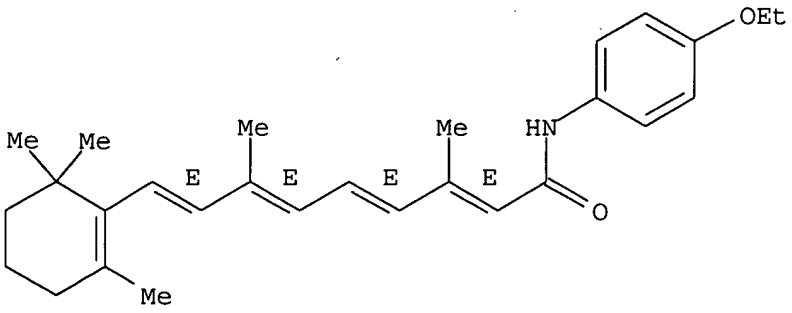


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 55 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 53839-73-9 REGISTRY
CN Retinamide, N-(4-ethoxyphenyl)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN N-(4-Ethoxyphenyl)retinamide
FS STEREOSEARCH
MF C28 H37 N O2
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, SPECINFO, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); USES (Uses)

Double bond geometry as shown.

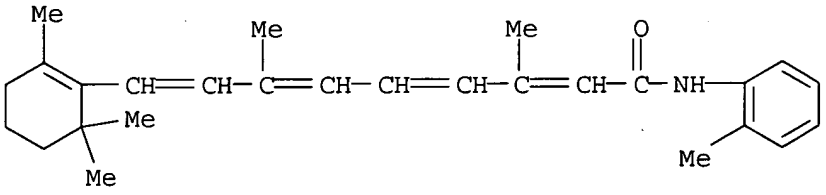


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

7 REFERENCES IN FILE CA (1907 TO DATE)

7 REFERENCES IN FILE CAPLUS (1907 TO DATE)

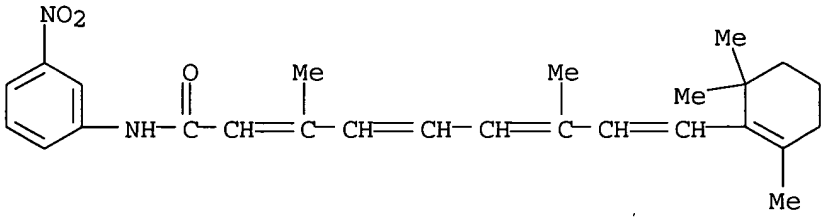
L7 ANSWER 56 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 53839-70-6 REGISTRY
CN Retinamide, N-(2-methylphenyl)- (9CI) (CA INDEX NAME)
MF C27 H35 N O
LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER
(*File contains numerically searchable property data)
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

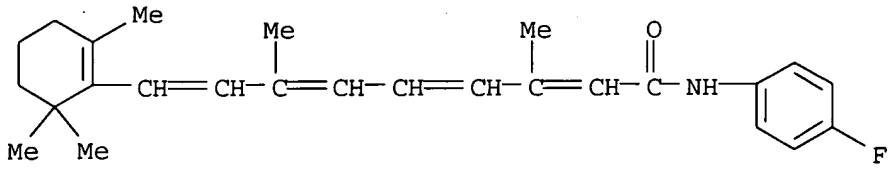
L7 ANSWER 57 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 53839-69-3 REGISTRY
CN Retinamide, N-(3-nitrophenyl)- (9CI) (CA INDEX NAME)
MF C26 H32 N2 O3
LC STN Files: CA, CAPLUS, SPECINFO, TOXCENTER
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

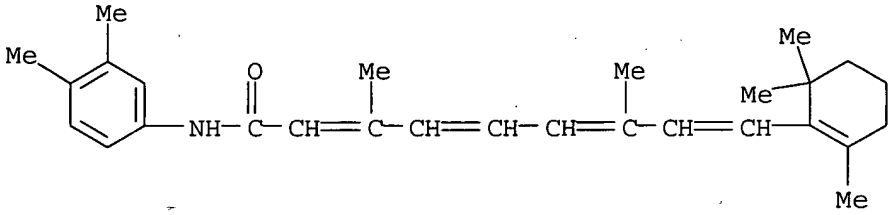
L7 ANSWER 58 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 53839-68-2 REGISTRY
CN Retinamide, N-(4-fluorophenyl)- (9CI) (CA INDEX NAME)
MF C26 H32 F N O
LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER
(*File contains numerically searchable property data)
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

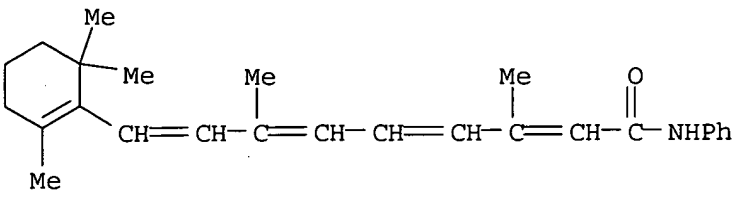
L7 ANSWER 59 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 53839-67-1 REGISTRY
CN Retinamide, N-(3,4-dimethylphenyl)- (9CI) (CA INDEX NAME)
MF C28 H37 N O
LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER
(*File contains numerically searchable property data)
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 60 OF 60 REGISTRY COPYRIGHT 2005 ACS on STN
RN 33631-48-0 REGISTRY
CN Retinamide, N-phenyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Retinanilide (8CI)
OTHER NAMES:
CN N-Phenylretinamide
MF C26 H33 N O
LC STN Files: BEILSTEIN*, BIOSIS, CA, CANCERLIT, CAPLUS, IFICDB, IFIPAT, IFIUDB, MEDLINE, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: PREP (Preparation)
RL.NP Roles from non-patents: BIOL (Biological study)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

7 REFERENCES IN FILE CA (1907 TO DATE)
7 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> d his

(FILE 'HOME' ENTERED AT 20:02:05 ON 16 MAR 2005)

FILE 'REGISTRY' ENTERED AT 20:02:13 ON 16 MAR 2005
L1 STRUCTURE UPLOADED
L2 8 S L1
L3 105 SEARCH L1 FULL

FILE 'CAPLUS' ENTERED AT 20:14:14 ON 16 MAR 2005
L4 640 S L3

FILE 'REGISTRY' ENTERED AT 20:27:11 ON 16 MAR 2005
L5 STRUCTURE UPLOADED
L6 3 S L5
L7 60 SEARCH L5 FULL

FILE 'CAPLUS' ENTERED AT 20:28:12 ON 16 MAR 2005
L8 598 S L7

FILE 'REGISTRY' ENTERED AT 20:28:27 ON 16 MAR 2005

=> s 65646-68-6
L9 1 65646-68-6
(65646-68-6/RN)

=> l7 not l9
L7 IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s l7 not l9
L10 59 L7 NOT L9

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	114.27	452.49

FILE 'CAPLUS' ENTERED AT 20:34:03 ON 16 MAR 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 16 Mar 2005 VOL 142 ISS 12
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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l10
L11 76 L10

=> d l11 fbib ab hitstr 1-76

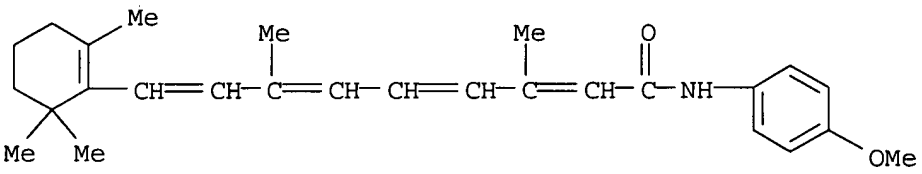
L11 ANSWER 1 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:787028 CAPLUS
DN 142:148003
TI Identification of the Fenretinide Metabolite 4-Oxo-Fenretinide Present in Human Plasma and Formed in Human Ovarian Carcinoma Cells through Induction of Cytochrome P450 26A1
AU Villani, Maria Grazia; Appierto, Valentina; Cavadini, Elena; Valsecchi, Manuela; Sonnino, Sandro; Curley, Robert W.; Formelli, Franca
CS Department of Experimental Oncology, Istituto Nazionale Tumori, Milan, Italy
SO Clinical Cancer Research (2004), 10(18, Pt. 1), 6265-6275
CODEN: CCREF4; ISSN: 1078-0432
PB American Association for Cancer Research
DT Journal
LA English
AB Purpose: The synthetic retinoid fenretinide (4-HPR) exhibits preventive and therapeutic activity against ovarian tumors. An unidentified polar metabolite was previously found in 4-HPR-treated subjects and in A2780 human ovarian carcinoma cells continuously treated with 4-HPR (A2780/HPR). The metabolite and the enzyme involved in its formation in tumor cells are herein identified. Exptl. Design: The metabolite was identified by mass spectrometry in A2780/HPR cell exts. and in plasma from 11 women participating in a phase III trial and treated with 200 mg/d 4-HPR for 5 yr. The expression of proteins involved in retinoid metabolism and transport, cytochrome P 450 26A1 (CYP26A1), cellular retinol-binding protein I (CRBP-I), and cellular retinoic acid-binding protein I and II (CRABP-I, CRABP-II) were evaluated in tumor cells by reverse transcription-PCR and Western blot analyses. Overexpression of CYP26A1 and retinoic acid receptors (RARs) in A2780 cells were obtained by cDNAs transfection. Results: The polar metabolite was 4-oxo-N-(4-hydroxyphenyl)retinamide (4-oxo-4-HPR) i.e., an oxidized form of 4-HPR with modification in position 4 of the cyclohexene ring. 4-oxo-4-HPR plasma levels were slightly lower (0.52 ± 0.17 μmol/L) than those of the parent drug (0.84 ± 0.53 μmol/L) and of the already identified metabolite N-(4-methoxyphenyl)retinamide (1.13 ± 0.85 μmol/L). In A2780/HPR cells continuously treated with 4-HPR and producing 4-oxo-4-HPR, CYP26A1

and CRBP-I were markedly up-regulated compared with A2780 untreated cells. In A2780 cells, not producing 4-oxo-4-HPR, overexpression of CYP26A1 caused formation of 4-oxo-4-HPR, which was associated with no change in 4-HPR sensitivity. Moreover, the addition of 4-oxo-4-HPR to A2780 cells inhibited cell proliferation. Elevated levels of CYP26A1 protein and metabolism of 4-HPR to 4-oxo-4-HPR were found in A2780 cells transfected with RARβ and to a lesser extent in those transfected with RARγ. Conclusions: A new metabolite of 4-HPR, 4-oxo-4-HPR, present in human plasma and in tumor cells, has been identified. The formation of this biol. active metabolite in tumor cells was due to CYP26A1 induction and was influenced by RAR expression. Moreover evidence was provided that 4-HPR up-modulates the expression of CRBP-I transcript, which is lost during ovarian carcinogenesis.

IT **79965-10-9**, N-(4-Methoxyphenyl)retinamide
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(4-oxo-fenretinide identified to be polar metabolite of fenretinide in plasma of breast cancer patients and its plasma levels were lower than parent drug and N-(4-methoxyphenyl)retinamide)

RN 79965-10-9 CAPLUS

CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RE.CNT 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 2 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:580829 CAPLUS

DN 141:199385

TI Liquid chromatography method for quantifying N-(4-hydroxyphenyl)retinamide and N-(4-methoxyphenyl)retinamide in tissues

AU Vratilova, Jitka; Frgala, Tomas; Maurer, Barry J.; Patrick Reynolds, C.

CS Division of Hematology-Oncology, Childrens Hospital Los Angeles, Los Angeles, CA, 90027, USA

SO Journal of Chromatography, B: Analytical Technologies in the Biomedical and Life Sciences (2004), 808(2), 125-130
CODEN: JCBAAI; ISSN: 1570-0232

PB Elsevier B.V.

DT Journal

LA English

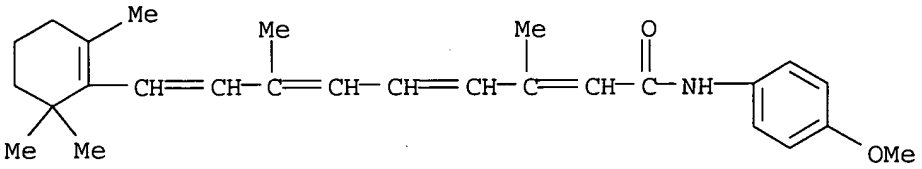
AB A simple and accurate high-performance liquid chromatog. (HPLC) method was developed to measure levels of N-(4-hydroxyphenyl)retinamide (fenretinide, 4-HPR) and its main metabolite N-(4-methoxyphenyl)retinamide (4-MPR) in tissue. Following ultrasonic extraction of fresh tissue in acetonitrile (ACN), 4-HPR and 4-MPR were measured by HPLC with UV absorbance detection at 340 nm, using isocratic elution with ACN, H2O, and acetic acid. N-(4-ethoxyphenyl)retinamide (4-EPR) was employed as an internal standard The 4-HPR and 4-MPR recovery in bovine liver or bovine brain tissue samples spiked with known amts. of 4-HPR and 4-MPR ranged from 93 to 110%. The detection limit of the method was 50 ng/mL. The method was tested on actual samples from an athymic (nu/nu) mouse carrying a s.c. tumor xenograft originating from SMS-KCNR neuroblastoma cells. The tissues were

harvested and analyzed following a 3 day long treatment with i.p. injections of 4-HPR/Diluent-12. 4-HPR and the metabolite 4-MPR were detected and quantitated in the tested tissues including tumor, liver, and brain. This method can be used to quantify 4-HPR and 4-MPR in different tissues to determine the bioavailability of 4-HPR.

IT **79965-10-9**, N-(4-Methoxyphenyl)retinamide
RL: ANT (Analyte); PKT (Pharmacokinetics); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(HPLC for quantifying antitumor agent N-(4-hydroxyphenyl)retinamide and its metabolite N-(4-methoxyphenyl)retinamide in tissues)

RN 79965-10-9 CAPLUS

CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 3 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:140536 CAPLUS

DN 141:17047

TI Modulation of DNA hypomethylation as a surrogate endpoint biomarker for chemoprevention of colon cancer

AU Tao, Lianhui; Wang, Wei; Kramer, Paula M.; Lubet, Ronald A.; Steele, Vernon E.; Pereira, Michael A.

CS Department of Pathology, Medical College of Ohio, Toledo, OH, USA

SO Molecular Carcinogenesis (2004), 39(2), 79-84
CODEN: MOCAE8; ISSN: 0899-1987

PB Wiley-Liss, Inc.

DT Journal

LA English

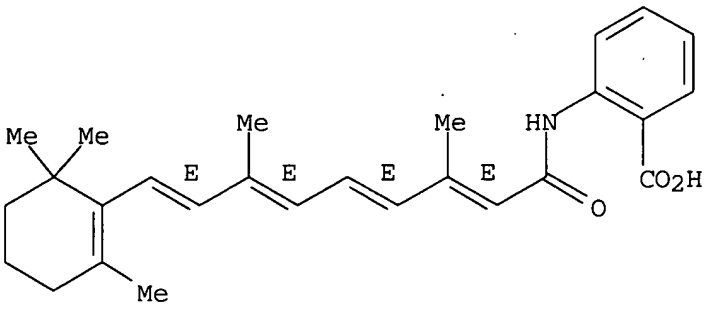
AB Surrogate end-point biomarkers are being developed as indicators of the efficacy of chemopreventive agents. These biomarkers are mol. and biol. end-points that can be modulated by chemopreventive agents in accordance with their efficacy to prevent cancer. DNA hypomethylation is a common alteration found in colon tumors that has the potential of being modulated by chemopreventive agents and thus being useful as a surrogate end-point biomarker. Agents that were either effective or ineffective in preventing colon cancer were evaluated for the ability to modulate DNA hypomethylation in azoxymethane-induced colon tumors in male F344 rats. DNA methylation was determined by Dot Blot Anal. using a mouse monoclonal anti-5-methylcytosine antibody. Colon tumors had a 70% reduction in DNA methylation relative to normal colonic mucosa. DNA methylation in the tumors was increased by 7 days of treatment with agents that have been shown to prevent colon cancer (calcium chloride, α-diflouromethylornithine [DFMO], piroxicam, and sulindac), whereas agents shown not to prevent colon cancer in rats (low dose aspirin, 2-carboxyphenyl retinamide [2-CPR], quercetin, 9-cis retinoic acid, and rutin) did not increase DNA methylation. The results suggest that the ability to reverse the DNA hypomethylation in colon tumors could be useful as a surrogate end-point biomarker for chemoprevention of colon cancer.

IT **74193-16-1**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL

(Biological study); USES (Uses)
(modulation of DNA hypomethylation as surrogate endpoint biomarker for chemoprevention of colon cancer)

RN 74193-16-1 CAPLUS
CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

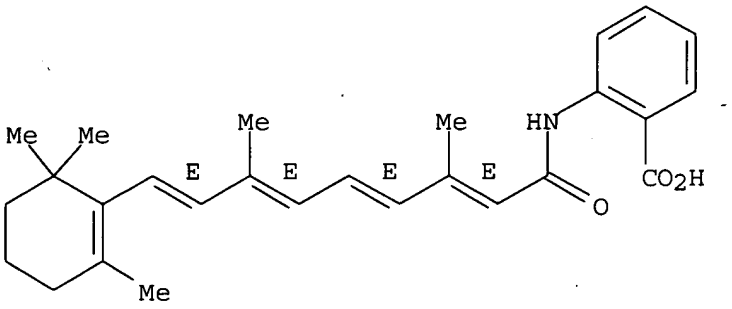
L11 ANSWER 4 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:800257 CAPLUS
DN 140:246299
TI Retinoid receptor-dependent and independent biological activities of novel fenretinide analogues and metabolites
AU Sabichi, Anita L.; Xu, Hui; Fischer, Susan; Zou, Changchan; Yang, Xiulan; Steele, Vernon E.; Kelloff, Gary J.; Lotan, Reuben; Clifford, John L.
CS Department of Clinical Cancer Prevention, The University of Texas M. D. Anderson Cancer Center, Houston, TX, 77030, USA
SO Clinical Cancer Research (2003), 9(12), 4606-4613
CODEN: CCREF4; ISSN: 1078-0432
PB American Association for Cancer Research
DT Journal
LA English
AB Fenretinide (4-HPR) is a retinoid analog with antitumor and chemopreventive activities. In addition to 4-HPR, there are several other new phenylretinamides bearing hydroxyl, carboxyl, or methoxyl residues on carbons 2, 3, and 4 of the terminal phenylamine ring [N-(2-hydroxyphenyl)retinamide (2-HPR), N-(3-hydroxyphenyl)retinamide, N-(2-carboxyphenyl)retinamide, N-(3-carboxyphenyl)retinamide, N-(4-carboxyphenyl)retinamide, and N-(4-methoxyphenyl)retinamide (4-MPR)]. It is hypothesized that these agents can act independent of the nuclear retinoid receptor pathway. To test this hypothesis directly, we have analyzed the activity of these phenylretinamides in vitro on a panel of F9 murine embryonal carcinoma cell lines, which includes wild-type (F9-WT) and mutant cells that have disrupted genes for both retinoid X receptor α and retinoic acid receptor γ retinoid receptors (F9-KO). The F9-KO cells lack almost all measurable response to all-trans-retinoic acid, the primary biol. active retinoid. Two distinct effects of retinamides were identified. The first is a rapid, dose-dependent induction of cell growth inhibition (reduced cell viability), and the second is a slower induction of differentiation and accumulation of cells in the G1 phase of the cell cycle that was observed with a concentration of 1 μM, for only those phenylretinamides bearing charged (hydroxyl or carboxyl) groups on the terminal phenylamine ring. The induction of differentiation and G1 accumulation was only observed in the

F9-WT cells, indicating that this effect is receptor-dependent. 4-MPR, a major metabolite of 4-HPR, lacks a charged group on the terminal phenylamine ring and did not induce retinoid receptor-dependent effects, but did induce cell growth inhibition. Thus, 4-MPR may play a role in the clin. activity of 4-HPR. This study further reveals the mechanism of action of these novel phenylretinamides and supports continued investigation into their development as chemopreventive drugs.

IT **74193-16-1 75664-75-4 75664-76-5**, N-(3-Hydroxyphenyl)retinamide **75664-78-7**, N-(3-Carboxyphenyl)retinamide **79965-10-9**, N-(4-Methoxyphenyl)retinamide
RL: DMA (Drug mechanism of action); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(retinoid receptor-dependent and independent antitumor biol. structure activities of novel fenretinide analogs and metabolites)

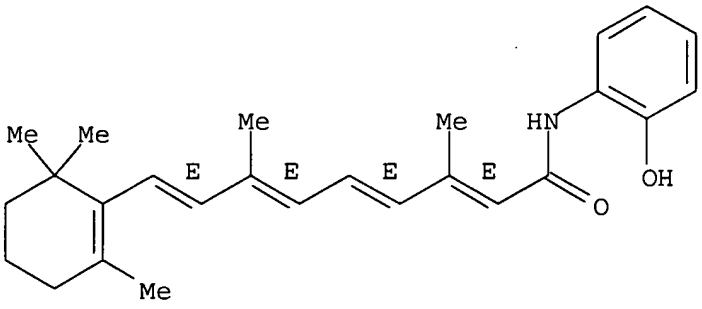
RN 74193-16-1 CAPLUS
CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



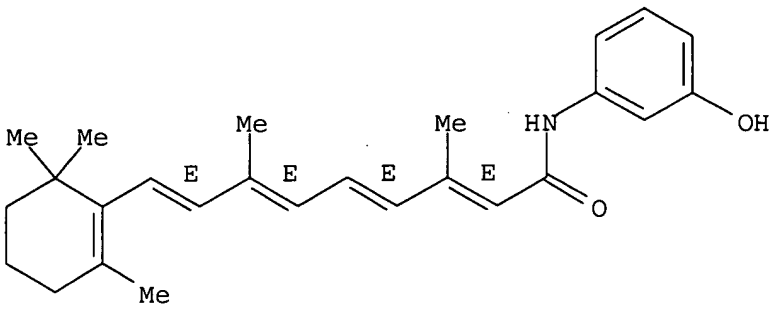
RN 75664-75-4 CAPLUS
CN Retinamide, N-(2-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



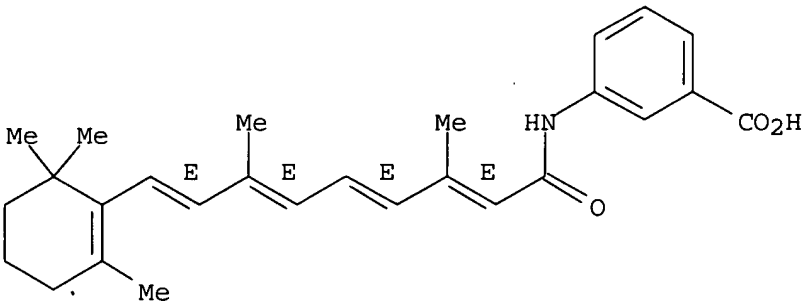
RN 75664-76-5 CAPLUS
CN Retinamide, N-(3-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

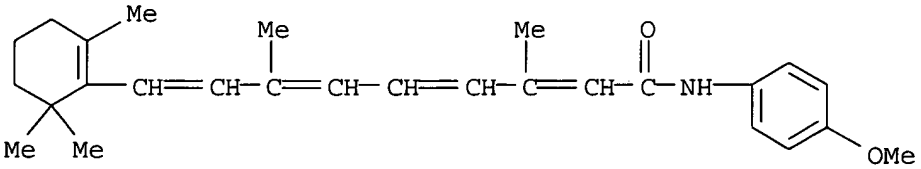


RN 75664-78-7 CAPLUS
CN Retinamide, N-(3-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

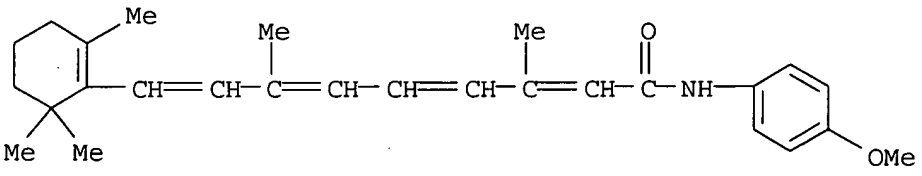
L11 ANSWER 5 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:528781 CAPLUS
DN 140:52696
TI Breast Tissue Accumulation of Retinamides in a Randomized Short-term Study of Fenretinide
AU Sabichi, Anita L.; Modiano, Manual R.; Lee, J. Jack; Peng, Yei-Mei; Xu, Ming-Jing; Villar, Hugo; Dalton, William S.; Lippman, Scott M.
CS Departments of Clinical Cancer Prevention and Biostatistics, The University of Texas M. D. Anderson Cancer Center, Houston, TX, 77030, USA
SO Clinical Cancer Research (2003), 9(7), 2400-2405
CODEN: CCREF4; ISSN: 1078-0432
PB American Association for Cancer Research
DT Journal
LA English

AB PURPOSE: The synthetic retinoid N-(4-hydroxyphenyl)retinamide [4-HPR (or fenretinide)] has preclin. and clin. preventive activity in breast carcinogenesis. 4-HPR and its metabolites have been shown to accumulate in the mammary tissue of rodents. We assessed levels of 4-HPR and its major metabolite, N-(4-methoxyphenyl)retinamide (4-MPR), in plasma and in normal and neoplastic breast tissue obtained from women treated with 4-HPR. Exptl. Design: We randomly assigned 14 women with suspected or very recently diagnosed breast cancer to receive 100, 200, or 300 mg of 4-HPR daily for 3-12 days before scheduled biopsy, lumpectomy, or mastectomy. Using high-performance liquid chromatog., we measured post-4-HPR-treatment concns. of 4-HPR and 4-MPR in plasma and breast tissue obtained during surgery. RESULTS: Breast tissue and plasma retinamide (4-HPR plus 4-MPR) concns. increased significantly with short-term oral administration of 4-HPR. Retinamide levels increased in a linear and dose-related fashion in plasma, whereas they peaked and plateaued at 200 mg/day in breast tissue. The total retinamide concentration in breast tissue exceeded that in plasma at each 4-HPR dose. The highest mean tissue:plasma retinamide ratios were achieved at 200 mg/day: 639.5 ± 253.8 to 190.6 ± 91.9 ng/mL (4.8:1) for 4-HPR and 594.4 ± 201.9 to 130.5 ± 37.8 ng/mL (6.6:1) for 4-MPR. Plasma retinol levels decreased in association with increasing 4-HPR doses. Two patients experienced grade 1 toxicity at the 300 mg/day dose. CONCLUSIONS: These findings indicate that retinamides preferentially accumulate in human breast tissue (vs. plasma). 4-HPR tissue concns. at 200 mg/d were equivalent to those that inhibit growth and induce apoptosis of breast cancer cells in vitro. Previous clin. and correlative laboratory results suggest that 4-HPR may reduce risk in premenopausal women, who are more prone (than are postmenopausal women) to estrogen receptor (ER)-neg. breast cancer development. The present results and previous data (including in vitro 4-HPR activity against ER-neg. breast cancer) support further study of 4-HPR in the setting of premenopausal/ER-neg. breast cancer prevention.

IT **79965-10-9**, N-(4-Methoxyphenyl)retinamide
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(breast tissue accumulation of retinamides in a randomized short-term study of fenretinide)

RN 79965-10-9 CAPLUS

CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RE.CNT 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 6 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:72731 CAPLUS

DN 139:223845

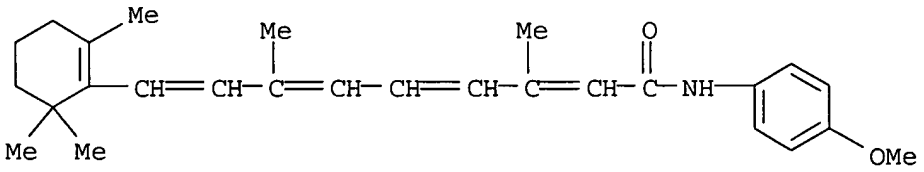
TI Fenretinide Breast Cancer Prevention Trial: Drug and Retinol Plasma Levels in Relation to Age and Disease Outcome

AU Formelli, Franca; Camerini, Tiziana; Cavadini, Elena; Appierto, Valentina; Villani, Maria Grazia; Costa, Alberto; De Palo, Giuseppe; Di Mauro, Maria Gaetana; Veronesi, Umberto

CS Istituto Nazionale Tumori, Milan, 20133, Italy

SO Cancer Epidemiology, Biomarkers & Prevention (2003), 12(1), 34-41

CODEN: CEBPE4; ISSN: 1055-9965
PB American Association for Cancer Research
DT Journal
LA English
AB Objectives were to assess, in women participating in a breast cancer prevention trial on fenretinide (4-HPR), the relationship of drug and retinol levels with the risk of second breast malignancy, taking into account age and menopausal status. In a multicenter prevention trial, women with early breast cancer were randomly assigned to receive no treatment or 200 mg of 4-HPR/day for 5 yr. Blood was collected at baseline and on a yearly basis during intervention from women recruited at the Istituto Tumori (Milan, Italy; 818 and 756 in the 4-HPR and control arm, resp., who accounted for 53% of the participants in the trial). The plasma concns. of 4-HPR, its main metabolite N-(4-methoxyphenyl) retinamide, and retinol were assayed by high-performance liquid chromatog. Three age ranges (≤45, 46-55, and ≥56 yr), menopausal status at baseline, and disease outcome at a median follow-up of 97 mo were taken into account in the anal. Baseline retinol levels were significantly lower ($P \leq 0.05$) in subjects ≤ 45 yr than in older subjects, and among subjects in the age range 46-55 yr, they were significantly higher ($P \leq 0.001$) in those in postmenopause than in those in premenopause. Baseline retinol levels were not related to the risk of a second breast malignancy. 4-HPR and N-(4-methoxyphenyl)retinamide levels were not affected by menopausal status. They slightly, but significantly ($P \leq 0.05$), increased with age (≥46 yr vs. ≤45 yr) but only in disease-free subjects. Among subjects < 45 yr, they were slightly, but significantly ($P \leq 0.05$), higher in those subjects in which breast cancer recurred. 4-HPR treatment caused a retinol level reduction, which was strongly ($r \geq 0.71$; $P \leq 0.001$) related to pretreatment retinol levels. Retinol plasma levels increased with age and after menopause and were not related to breast cancer recurrence. 4-HPR levels were lower in subjects < 45 yr than in older subjects. The inverse relationship between drug plasma levels and 4-HPR preventive effects observed in young women suggests a role for 4-HPR plasma sequestration in 4-HPR biol. activity.
IT **79965-10-9**, N-(4-Methoxyphenyl) retinamide
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(fenretinide, its metabolite, and retinol in breast cancer prevention in relation to age and prognosis)
RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 7 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:42076 CAPLUS
DN 138:106851
TI Solid phase synthesis of arylretinamides for their therapeutic use as anticancer agents
IN Curley, Robert W., Jr.; Mershon, Serena M.; Barnett, Derek W.;

Clagett-Dame, Margaret; Chapman, Jason S.
PA The Ohio State University Research Foundation, USA
SO PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
PI	WO 2003003987	A2	20030116	WO 2002-US21452		20020708
	WO 2003003987	A3	20030717			
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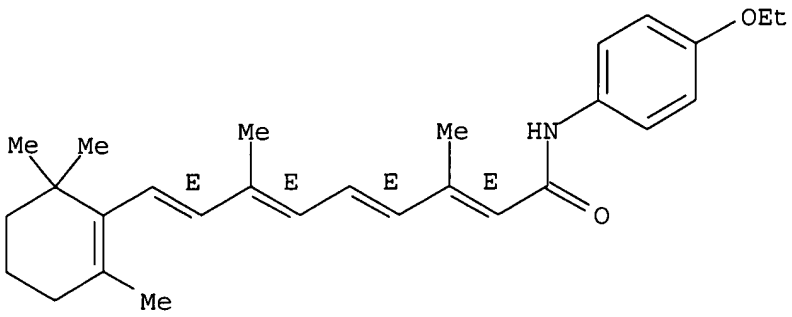
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
				US 2001-303616P	P	20010706
	US 2003105164	A1	20030605	US 2002-191786		20020708
	US 6696606	B2	20040224			
				US 2001-303616P	P	20010706
	US 2004102650	A1	20040527	US 2003-719429		20031121
				US 2001-303616P	P	20010706
				US 2002-191786	A3	20020708

OS CASREACT 138:106851; MARPAT 138:106851
AB The present invention discloses a solid phase synthetic method for preparing arylretinamides, such as I [R2 = H, OH, NO2, CH2OH, halide, alkyl; R3 = H, OH, NO2, carboxyalkyl, halide, alkyl; R4 = H, OH, alkyloxy, alkylsulfonyl, NH2, acylamino, N3, halide, alkyl; R5 = H, NO2, alkyl, carboxyalkyl, halide; R6 = H, CO2H, carboxyalkyl, halide, alkyl; R7 = H, alkyl], for their therapeutic use as anticancer agents. The method comprises reacting hexachloroacetone with a solvent-suspended resin-bound triphenylphosphine to provide a suspension comprising an activated chlorinating reagent; reacting retinoic acid with the activated chlorinating reagent to provide retinoyl chloride; adding pyridine and a select arylamine to the resulting mixture; and stirring the resulting mixture for a time and at a temperature sufficient for the select arylamine to react with the retinoyl chloride and provide the arylretinamide. The prepared arylretinamide derivs. were tested for inhibition of growth of cultured MCF-7 cells. Also provided, are methods of using I to induce apoptosis in cancer cells.
IT **53839-73-9P 74193-16-1P 477559-39-0P**
477559-41-4P 485396-46-1P 485396-47-2P
485396-48-3P 485396-49-4P 485396-51-8P
485396-52-9P 485396-53-0P 485396-54-1P
485396-55-2P 485396-56-3P 485396-57-4P
485396-58-5P 485396-59-6P 485396-60-9P
485396-61-0P 485396-62-1P 485396-63-2P
485396-64-3P 485396-66-5P 485396-68-7P
485396-70-1P 485396-71-2P 485396-72-3P
485396-73-4P 485396-74-5P 485396-75-6P
485396-77-8P 485396-81-4P 485396-85-8P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(solid phase synthesis of arylretinamides for their therapeutic use as anticancer agents)

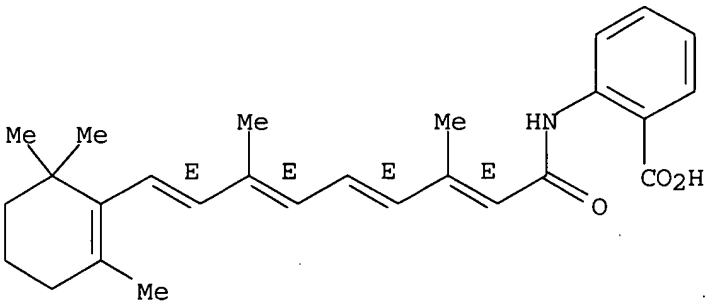
RN 53839-73-9 CAPLUS
CN Retinamide, N-(4-ethoxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



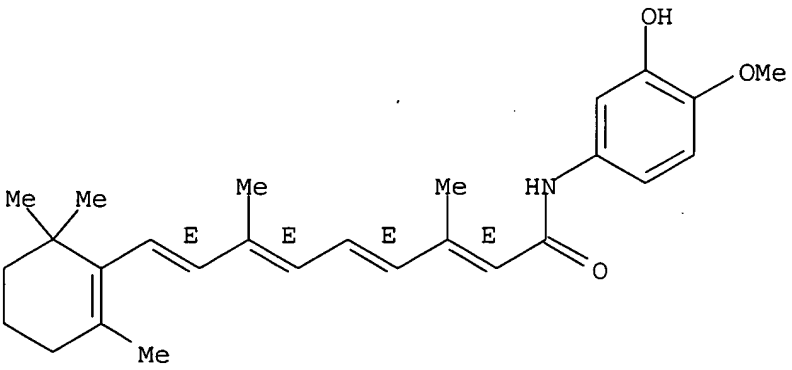
RN 74193-16-1 CAPLUS
CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



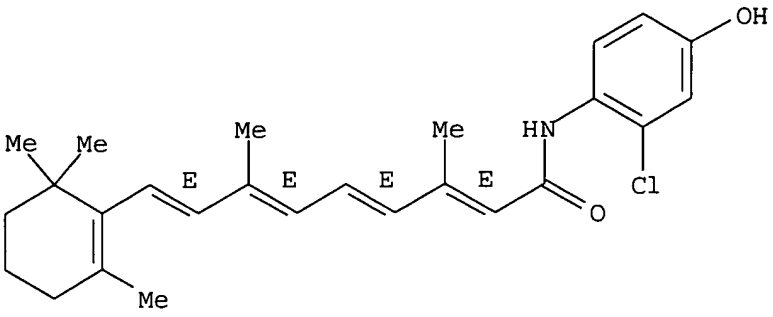
RN 477559-39-0 CAPLUS
CN Retinamide, N-(3-hydroxy-4-methoxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



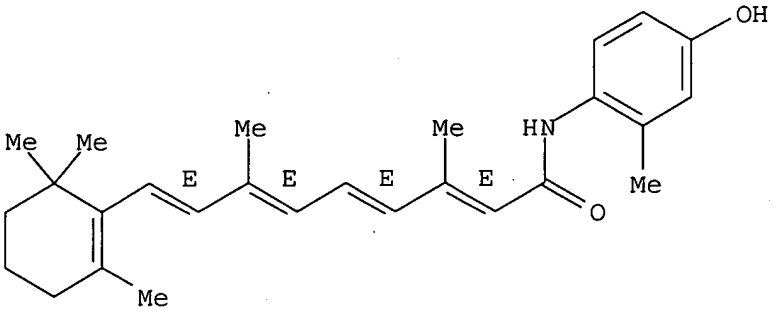
RN 477559-41-4 CAPLUS
CN Retinamide, N-(2-chloro-4-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



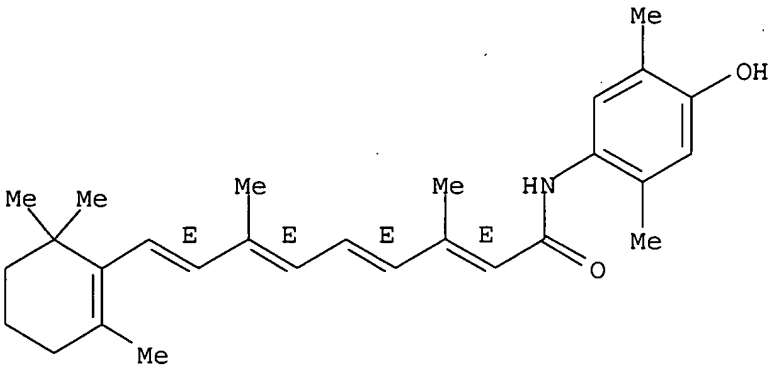
RN 485396-46-1 CAPLUS
CN Retinamide, N-(4-hydroxy-2-methylphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



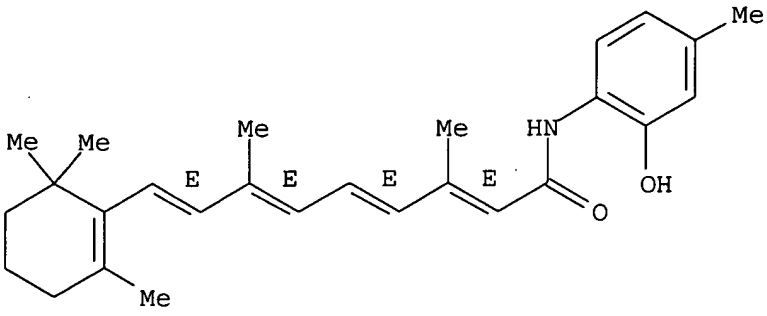
RN 485396-47-2 CAPLUS
CN Retinamide, N-(4-hydroxy-2,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



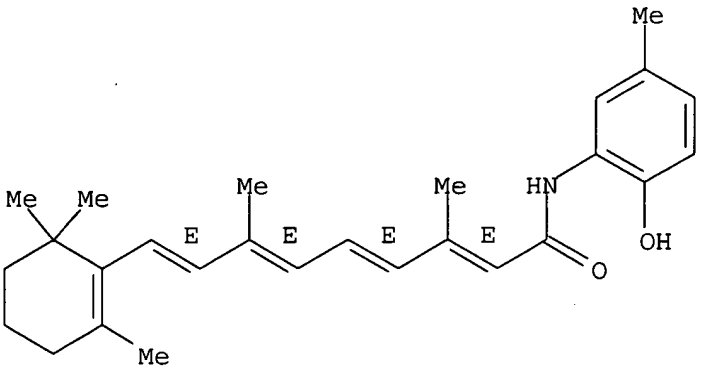
RN 485396-48-3 CAPLUS
CN Retinamide, N-(2-hydroxy-4-methylphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



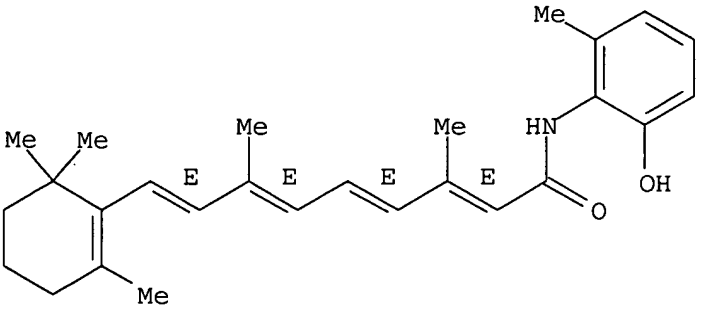
RN 485396-49-4 CAPLUS
CN Retinamide, N-(2-hydroxy-5-methylphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



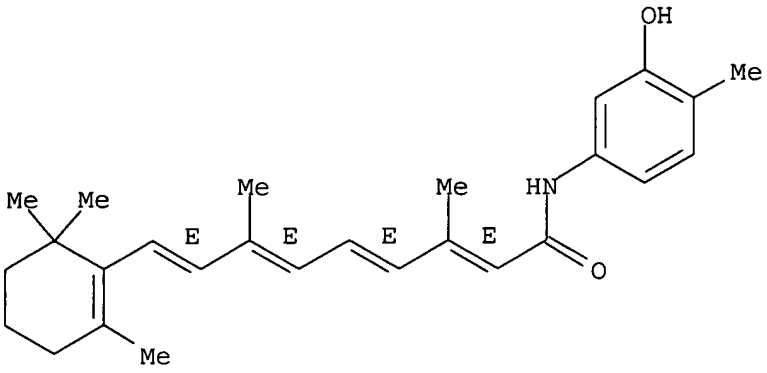
RN 485396-51-8 CAPLUS
CN Retinamide, N-(2-hydroxy-6-methylphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



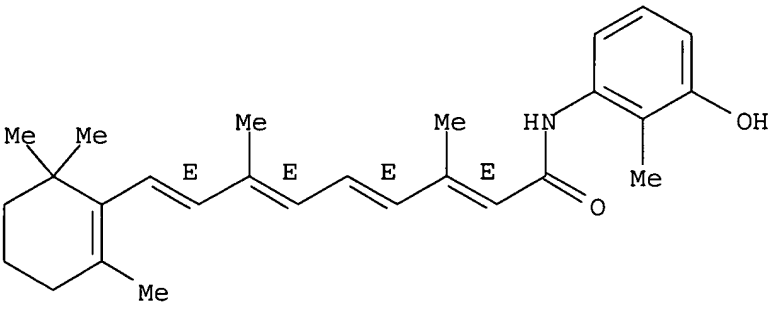
RN 485396-52-9 CAPLUS
CN Retinamide, N-(3-hydroxy-4-methylphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



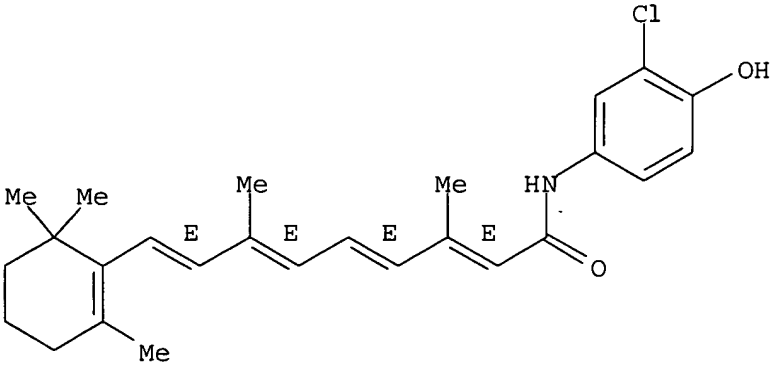
RN 485396-53-0 CAPLUS
CN Retinamide, N-(3-hydroxy-2-methylphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



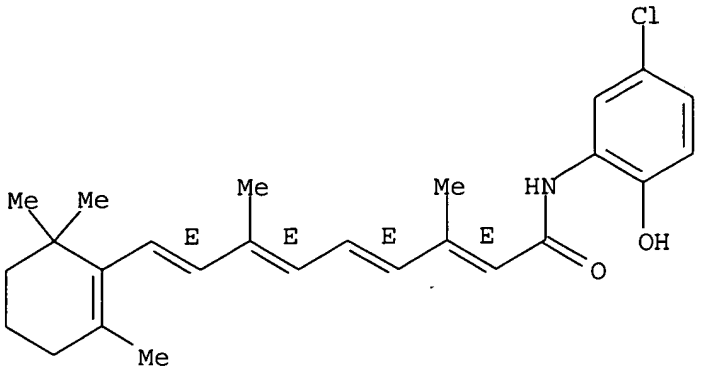
RN 485396-54-1 CAPLUS
CN Retinamide, N-(3-chloro-4-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



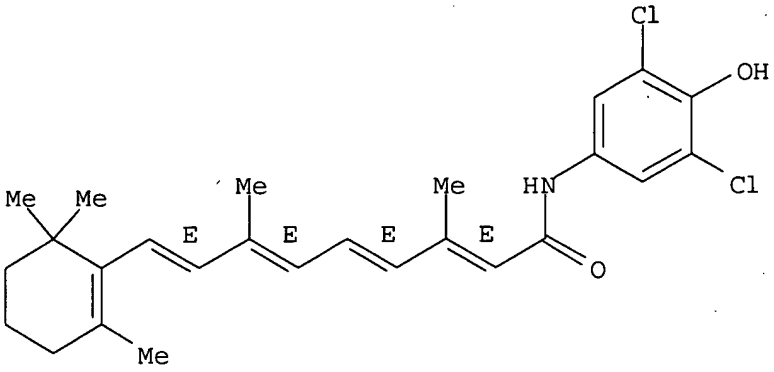
RN 485396-55-2 CAPLUS
CN Retinamide, N-(5-chloro-2-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



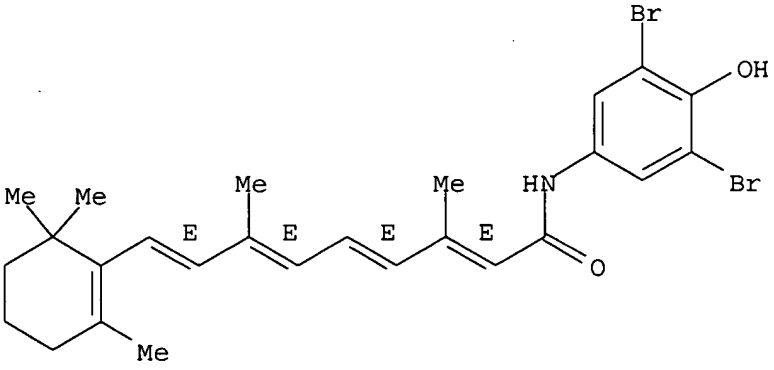
RN 485396-56-3 CAPLUS
CN Retinamide, N-(3,5-dichloro-4-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



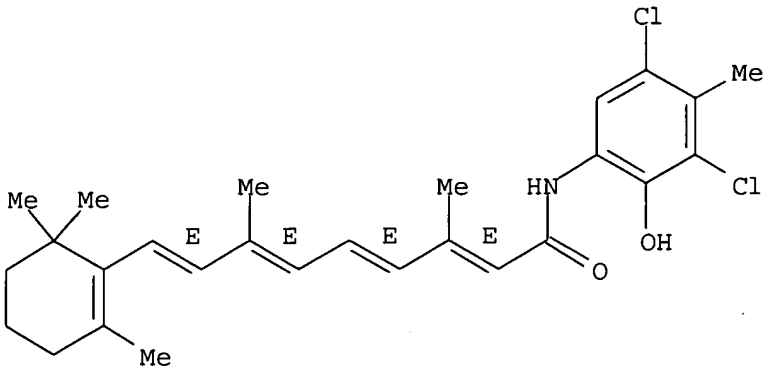
RN 485396-57-4 CAPLUS
CN Retinamide, N-(3,5-dibromo-4-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



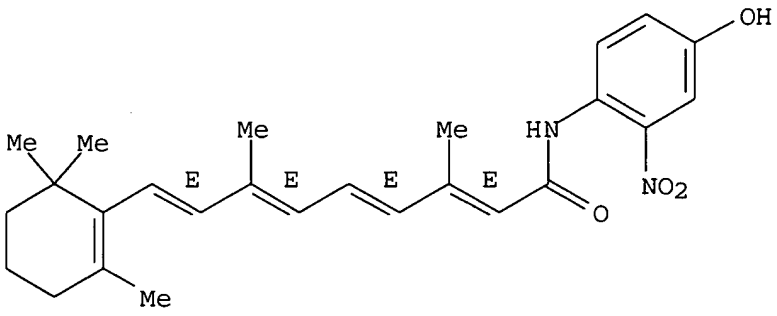
RN 485396-58-5 CAPLUS
CN Retinamide, N-(3,5-dichloro-2-hydroxy-4-methylphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



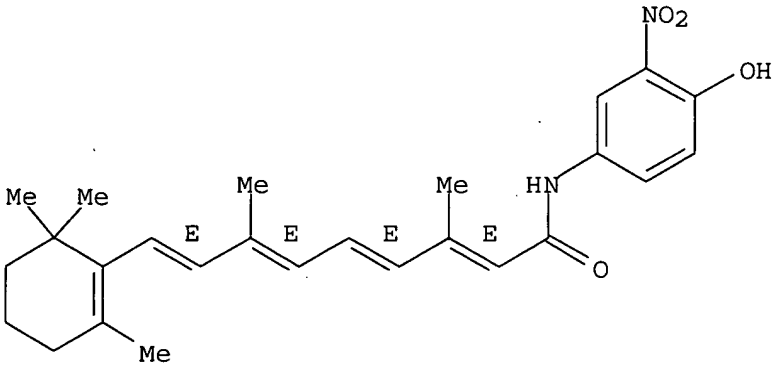
RN 485396-59-6 CAPLUS
CN Retinamide, N-(4-hydroxy-2-nitrophenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



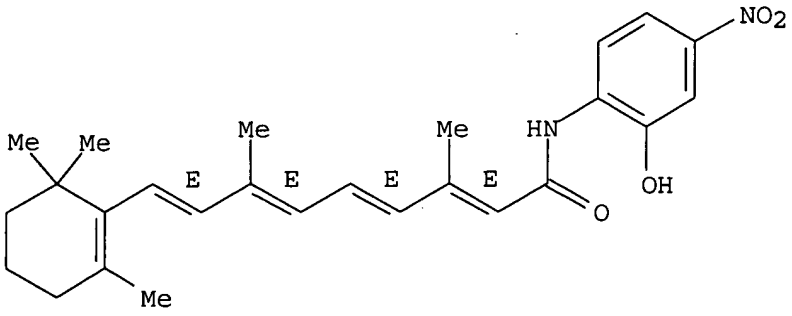
RN 485396-60-9 CAPLUS
CN Retinamide, N-(4-hydroxy-3-nitrophenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



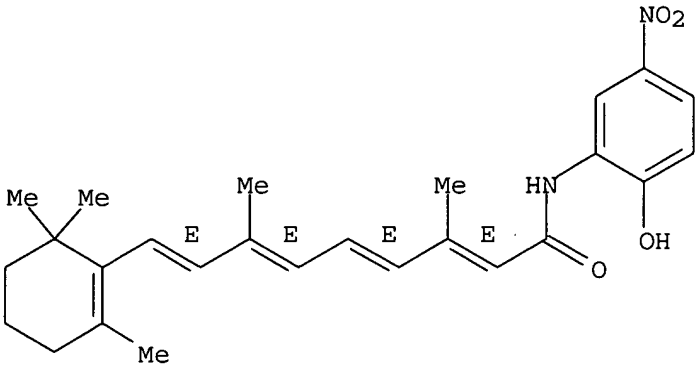
RN 485396-61-0 CAPLUS
CN Retinamide, N-(2-hydroxy-4-nitrophenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



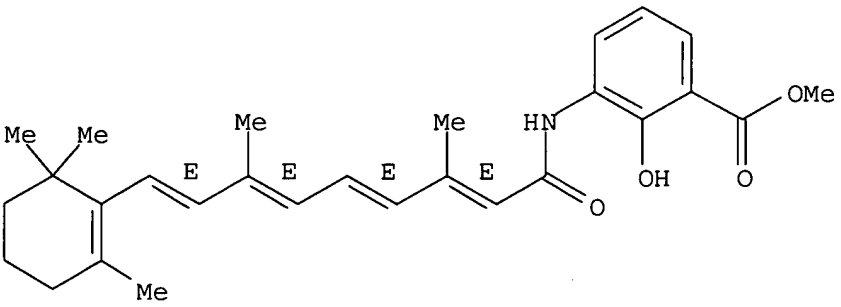
RN 485396-62-1 CAPLUS
CN Retinamide, N-(2-hydroxy-5-nitrophenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



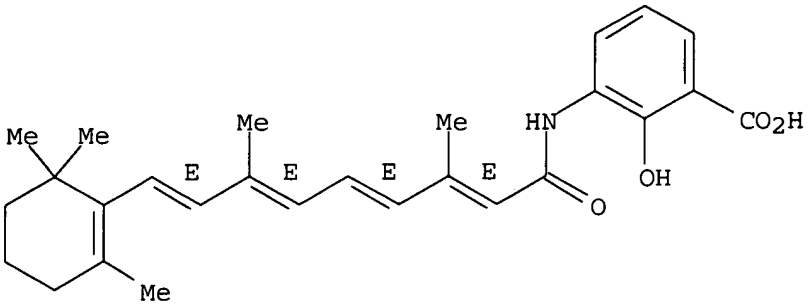
RN 485396-63-2 CAPLUS
CN Benzoic acid, 2-hydroxy-3-[(15-oxoretin-15-yl)amino]-, methyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



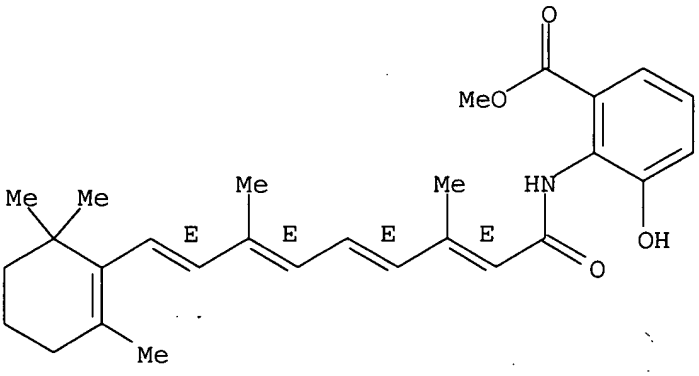
RN 485396-64-3 CAPLUS
CN Benzoic acid, 2-hydroxy-3-[(15-oxoretin-15-yl)amino]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



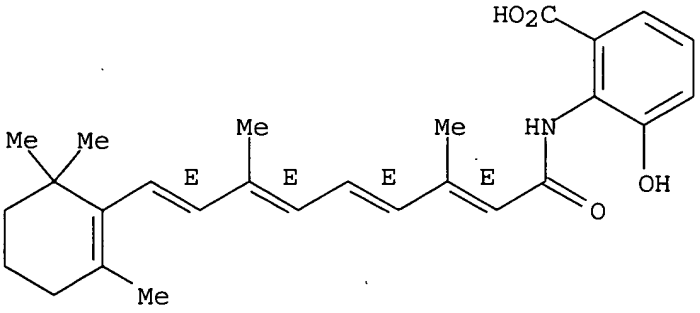
RN 485396-66-5 CAPLUS
CN Benzoic acid, 3-hydroxy-2-[(15-oxoretin-15-yl)amino]-, methyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



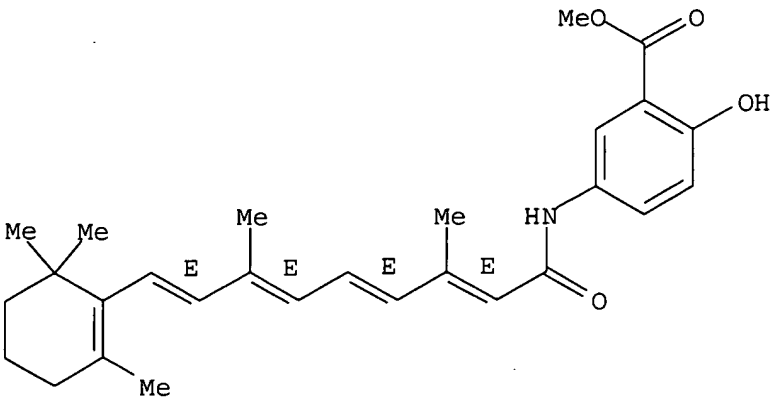
RN 485396-68-7 CAPLUS
CN Benzoic acid, 3-hydroxy-2-[(15-oxoretin-15-yl)amino]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



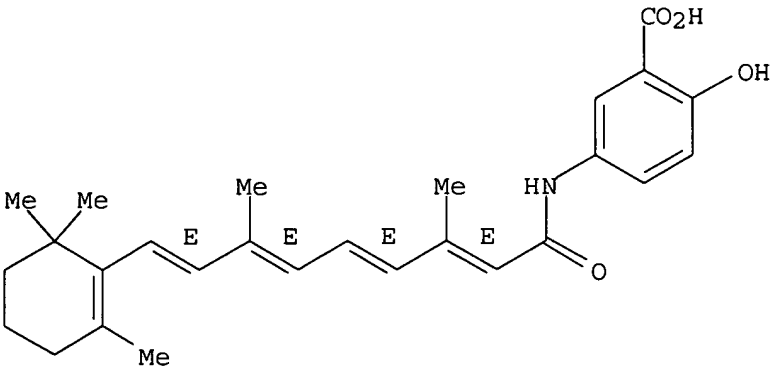
RN 485396-70-1 CAPLUS
CN Benzoic acid, 2-hydroxy-5-[(15-oxoretin-15-yl)amino]-, methyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



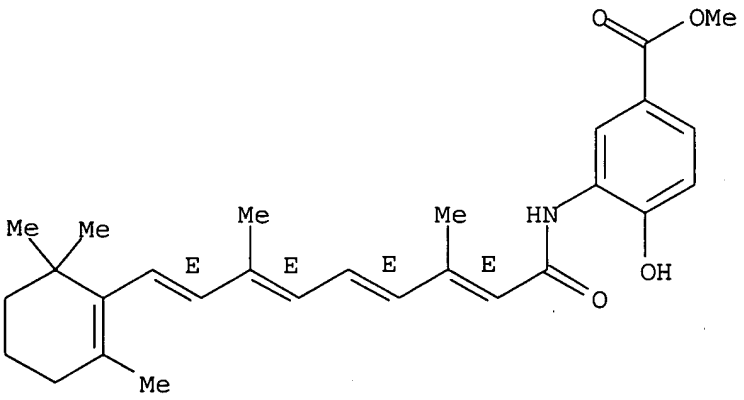
RN 485396-71-2 CAPLUS
CN Benzoic acid, 2-hydroxy-5-[(15-oxoretin-15-yl)amino]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 485396-72-3 CAPLUS
CN Benzoic acid, 4-hydroxy-3-(retinoylamino)-, methyl ester (9CI) (CA INDEX NAME)

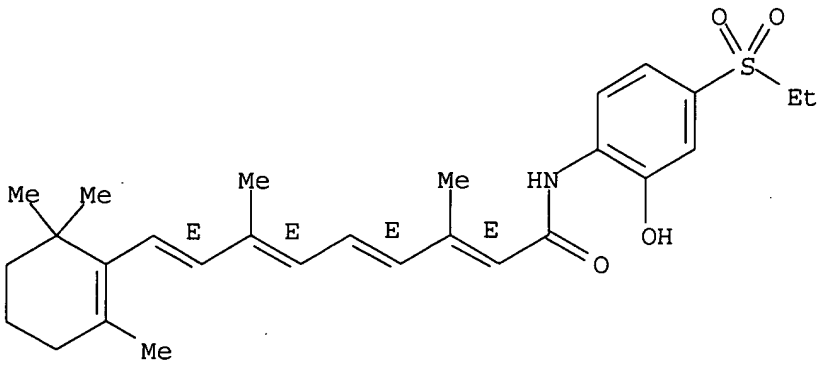
Double bond geometry as shown.



RN 485396-73-4 CAPLUS

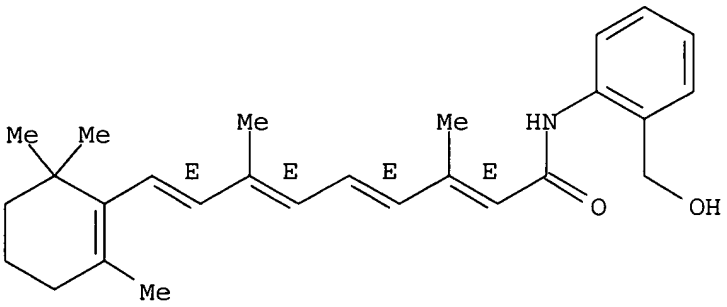
CN Retinamide, N-[4-(ethylsulfonyl)-2-hydroxyphenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



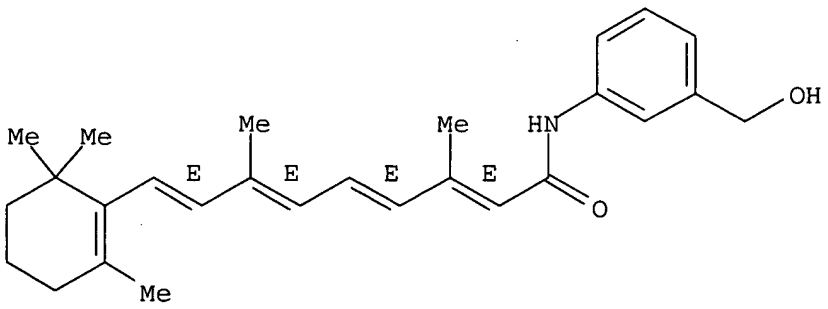
RN 485396-74-5 CAPLUS
CN Retinamide, N-[2-(hydroxymethyl)phenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



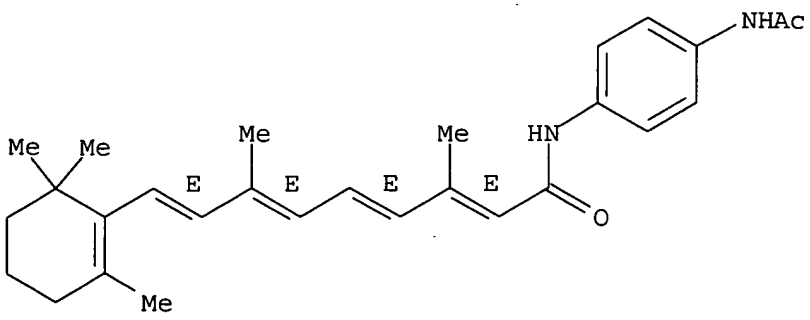
RN 485396-75-6 CAPLUS
CN Retinamide, N-[3-(hydroxymethyl)phenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



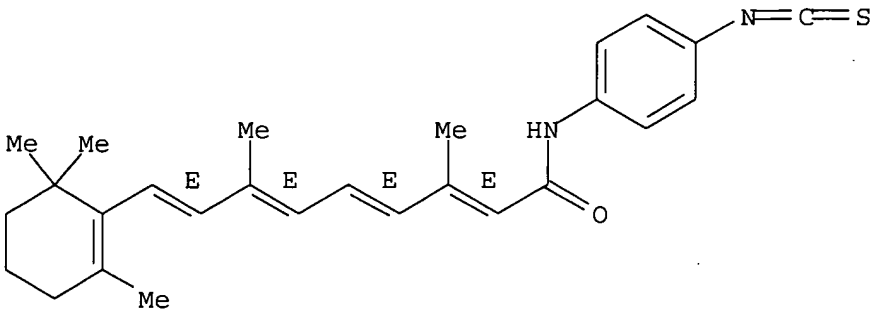
RN 485396-77-8 CAPLUS
CN Retinamide, N-[4-(acetylamino)phenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



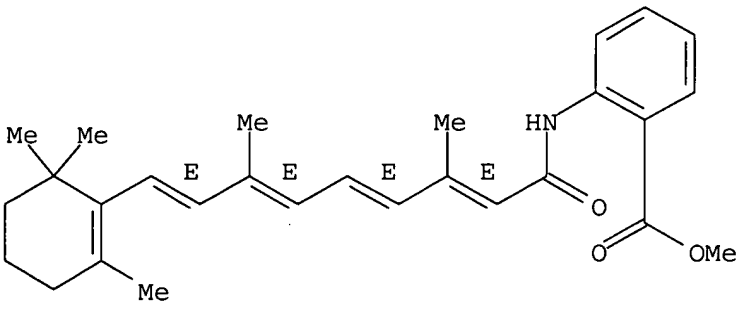
RN 485396-81-4 CAPLUS
CN Retinamide, N-(4-isothiocyanatophenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 485396-85-8 CAPLUS
CN Benzoic acid, 2-[(15-oxoretin-15-yl)amino]-, methyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L11 ANSWER 8 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:927388 CAPLUS
DN 138:14132
TI Preparation of retinoid derivatives for use in anti-cancer pharmaceutical compositions
IN Um, Soo-Jong; Sin, Hong-Sig; Rho, Young-Soy; Park, Si-Ho; Kwon, Youn-Ja; Park, Myoung-Soon; Han, Hye-Sook; Kim, So-Mi; Kim, Dong-Myong; Oh, Deok-Kun; Park, Jong-sup; Bae, Tae-sung
PA Chebigen Co., Ltd., S. Korea

SO PCT Int. Appl., 127 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002096857	A1	20021205	WO 2002-KR1014	20020529
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
			KR 2001-29813	A 20010529
			KR 2002-15016	A 20020320
KR 2002090850	A	20021205	KR 2002-15016	20020320
			KR 2001-29813	A 20010529
EP 1390343	A1	20040225	EP 2002-728253	20020529
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
			KR 2001-29813	A 20010529
			KR 2002-15016	A 20020320
			WO 2002-KR1014	W 20020529
JP 2004526807	T2	20040902	JP 2003-500037	20020529
			KR 2001-29813	A 20010529
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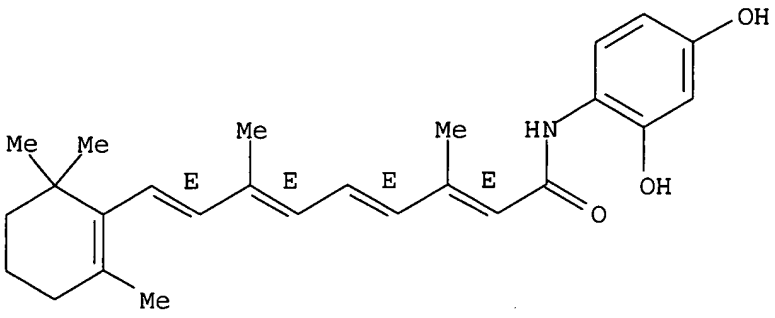
			WO 2002-KR1014	W 20020529
US 2003171339	A1	20030911	US 2002-239001	20020917
			KR 2001-29813	A 20010529
			KR 2002-15016	A 20020320
			WO 2002-KR1014	W 20020529

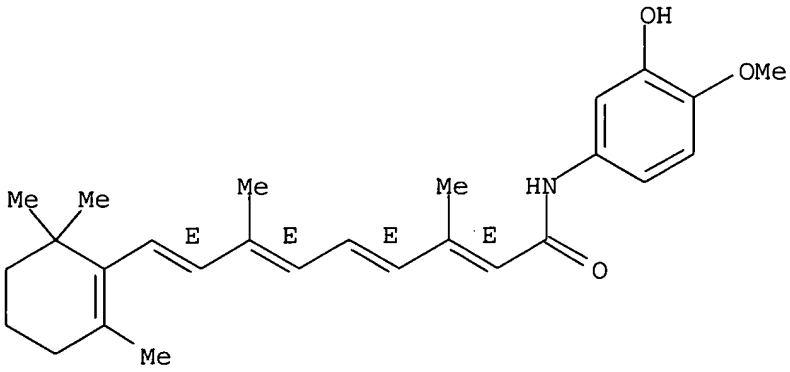
OS MARPAT 138:14132
AB Retinoid derivs., such as I [X = O, NH, S; R1, R2, R3 = H, OH, SH, NH2, CO2H, etc.], were prepared for therapeutic use as antitumor agents with potent anti-cancer effects while not causing undesirable side effects. Thus, retinoid derivative KCBG 08 I (R1 = R3 = OH, R2 = H, X = NH) was prepared in 58% yield by an amidation reaction of retinoic acid with 4-aminoresorcinol hydrochloride using DMAP in DMF. The prepared retinoid derivs. were tested for inhibition of proliferation of various cancer cell lines.
IT **477559-28-7P**, KCBG 08 **477559-39-0P**, KCBG 25
477559-41-4P, KCBG 27 **477559-66-3P**, KYJ 3-020
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of retinoid derivs. for use in anti-cancer pharmaceutical compns.)
RN 477559-28-7 CAPLUS
CN Retinamide, N-(2,4-dihydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



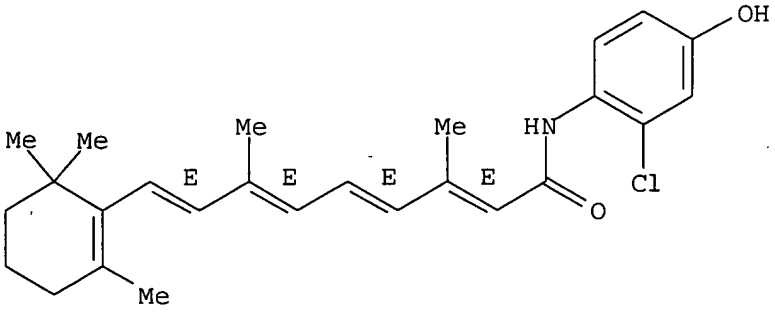
RN 477559-39-0 CAPLUS
CN Retinamide, N-(3-hydroxy-4-methoxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



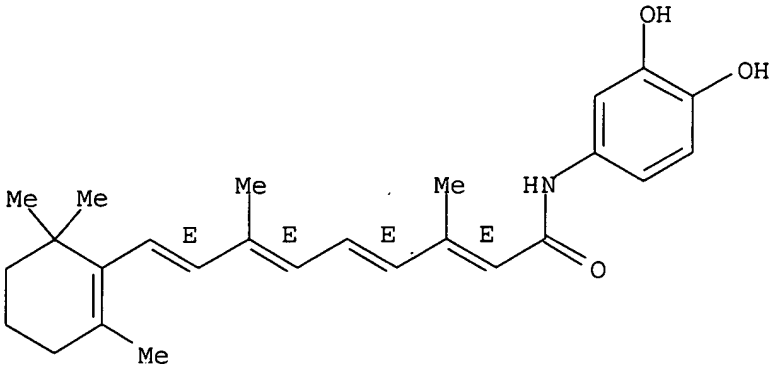
RN 477559-41-4 CAPLUS
CN Retinamide, N-(2-chloro-4-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



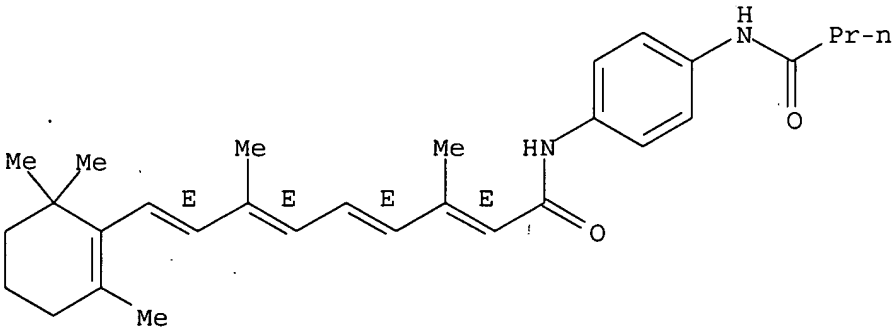
RN 477559-66-3 CAPLUS
CN Retinamide, N-(3,4-dihydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



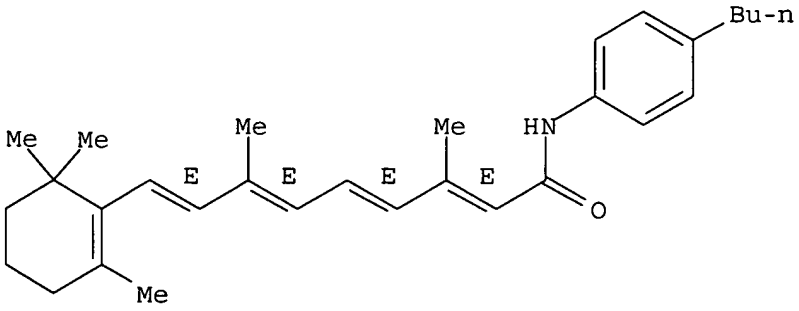
IT **477559-48-1P**, KCBG 40 **477559-62-9P**, KCBG 55
477559-63-0P, KCBG 56
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of retinoid derivs. for use in anti-cancer pharmaceutical compns.)
RN 477559-48-1 CAPLUS
CN Retinamide, N-[4-[(1-oxobutyl)amino]phenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 477559-62-9 CAPLUS
CN Retinamide, N-(4-butylphenyl)- (9CI) (CA INDEX NAME)

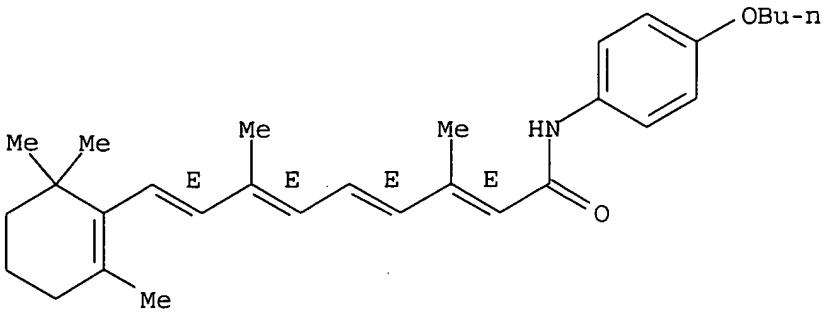
Double bond geometry as shown.



RN 477559-63-0 CAPLUS

CN Retinamide, N-(4-butoxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

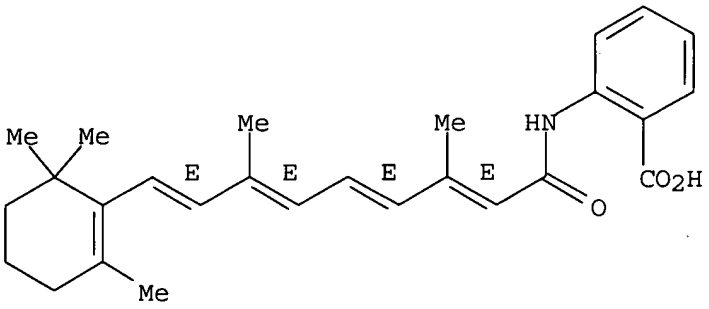
L11 ANSWER 9 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:666444 CAPLUS
DN 138:265226
TI Altered expression of c-myc, p16 and p27 in rat colon tumors and its reversal by short-term treatment with chemopreventive agents
AU Tao, Lianhui; Kramer, Paula M.; Wang, Wei; Yang, Siming; Lubet, Ronald A.; Steele, Vernon E.; Pereira, Michael A.
CS Department of Pathology, HEB, Medical College of Ohio, Toledo, OH, 43614-5806, USA
SO Carcinogenesis (2002), 23(9), 1447-1454
CODEN: CRNGDP; ISSN: 0143-3334
PB Oxford University Press
DT Journal
LA English
AB Modulation of gene expression in tumors has the potential of being a surrogate end-point biomarker for chemoprevention. Thus, we determined the modulation by chemopreventive agents of the protein and mRNA expression of genes in rat colon tumors. Male F344 rats were administered three weekly injections of 15 mg/kg azoxymethane. Forty-seven weeks later, they received aspirin (600), calcium chloride (50 000), 2-(carboxyphenyl)retinamide (2-CPR, 315), α-difluoromethylornithine (DFMO, 3000), piroxicam (200), quercetin (33 600), 9-cis-retinoic acid (9-cis RA, 30), rutin (3000), or sulindac (280) in their diet at the indicated mg/kg concentration for 7 days and were then killed. In colon tumors relative to the mucosa, the protein and mRNA levels of c-myc were increased, while the levels of p16 and p27 were decreased. Calcium chloride, DFMO, piroxicam and sulindac administered for 7 days decreased the mitotic index and reduced the protein and mRNA levels of c-myc in colon tumors. Calcium chloride, DFMO and piroxicam increased the protein and mRNA levels of p16 and along with sulindac increased the protein level of p27, but not its mRNA. The other agents failed to modulate both the mitotic index and the expression of the genes. The ability of the chemopreventive agents to prevent colon tumors was determined Male F344 rats were administered three weekly injections of 15 mg/kg azoxymethane and 8 wk later they were administered aspirin, 2-CPR, DFMO, piroxicam, 9-cis RA and rutin in their diet. The rats were killed 26 wk after they started to receive the chemopreventive agents. The multiplicity of colon tumors was reduced by DFMO and piroxicam, increased by rutin and not affected by the other agents. Hence, agents that prevented colon cancer decreased the mitotic index and altered the expression of c-myc, p16 and p27 suggesting

that modulation in the expression of these genes are potential biomarkers for chemopreventive activity.

IT **74193-16-1**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(altered expression of c-myc, p16 and p27 in rat colon tumors and its reversal by short-term treatment with chemopreventive agents)

RN 74193-16-1 CAPLUS
CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RE.CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

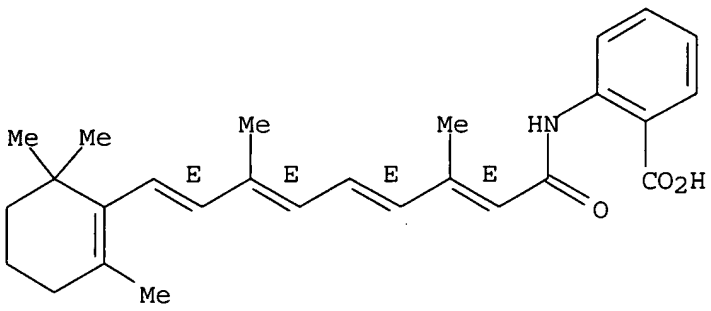
L11 ANSWER 10 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:195491 CAPLUS
DN 137:226271
TI Modulation of Ki67, p53 and RARβ expression in normal, premalignant and malignant human oral epithelial cells by chemopreventive agents
AU D'Ambrosio, S. M.; Gibson-D'Ambrosio, R. E.; Wani, G.; Casto, B.; Milo, G. E.; Kelloff, G. J.; Steele, V. E.
CS The Ohio State University School of Medicine and Public Health and Comprehensive Cancer Center, Columbus, OH, 43210, USA
SO Anticancer Research (2001), 21(5), 3229-3235
CODEN: ANTRD4; ISSN: 0250-7005
PB International Institute of Anticancer Research
DT Journal
LA English
AB Aberrant expression of Ki67, p53 and RARβ are characteristic of many tumor types including those of the oral cavity. Chemopreventive agents may act by modulating their expression to more normal levels. The effects of 21 chemopreventive agents on the expression of Ki67, p53 and RARβ were determined using a human in vitro model of normal, premalignant and malignant oral epithelial cell lines. Ki67 and mutant p53 (mtp53) were over-expressed in both the premalignant and malignant cell lines, whereas expression of RARβ was high in the normal, low in the premalignant and not detectable in the malignant cell lines. Most of the agents selectively inhibited the expression of Ki67 in the premalignant and malignant cell lines. Eight of the 21 agents increased, while four agents decreased, the levels of mtp53 protein in the premalignant cell line. In the malignant cell line, five of the agents increased, while ten agents decreased mtp53 protein levels. The agents increased RARβ expression to near normal levels in the premalignant cell line. The data suggest that the suppression of Ki67 and mtp53 are good indicators of the effectiveness of agents in premalignant and malignant oral cells, whereas the enhancement of RARβ is a measure of effectiveness in premalignant

oral cells.

IT **74193-16-1**, N-(o-Carboxyphenyl)retinamide **75664-75-4**, Retinamide, N-(2-Hydroxyphenyl) **75664-76-5**, N-(3-Hydroxyphenyl)retinamide **75664-78-7**, N-(3-Carboxyphenyl)retinamide
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(modulation of Ki67, p53 and RARβ expression in normal, premalignant and malignant human oral epithelial cells by chemopreventive agents)

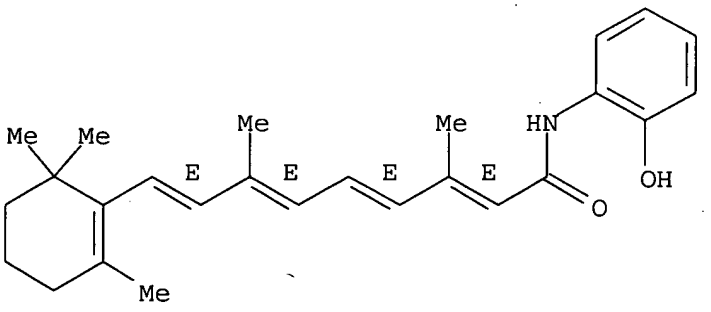
RN 74193-16-1 CAPLUS
CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



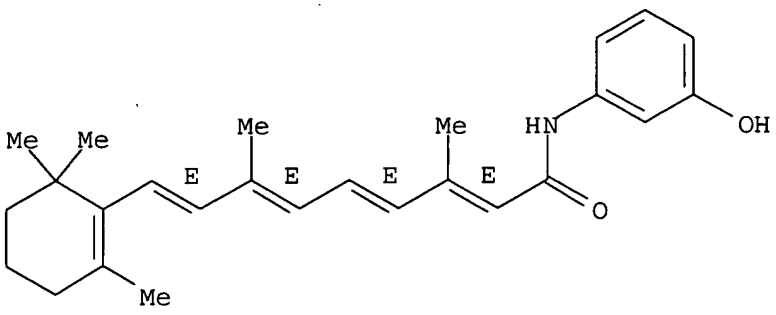
RN 75664-75-4 CAPLUS
CN Retinamide, N-(2-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



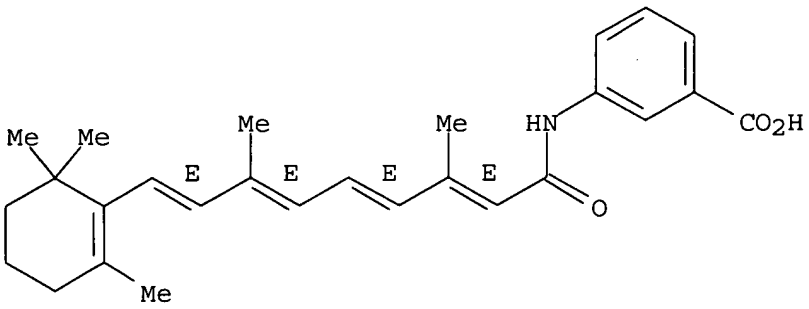
RN 75664-76-5 CAPLUS
CN Retinamide, N-(3-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 75664-78-7 CAPLUS
CN Retinamide, N-(3-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RE.CNT 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

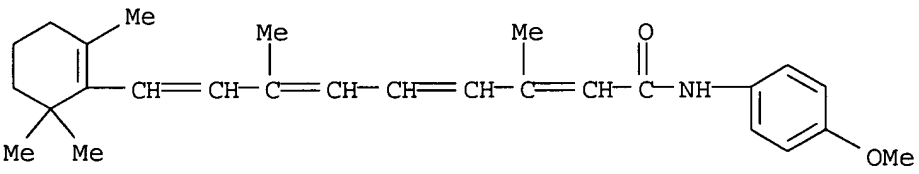
L11 ANSWER 11 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:808775 CAPLUS
DN 136:95739
TI Long-term effects of fenretinide, a retinoic acid derivative, on the insulin-like growth factor system in women with early breast cancer
AU Decensi, Andrea; Johansson, Harriet; Miceli, Rosalba; Mariàni, Luigi; Camerini, Tiziana; Cavadini, Elena; Di Mauro, Maria Gaetana; Barreca, Antonina; Gonzaga, Aliana Guerrieri; Diani, Silvia; Sandri, Maria Teresa; De Palo, Giuseppe; Formelli, Franca
CS Division of Chemoprevention, European Institute of Oncology, Milan, 20141, Italy
SO Cancer Epidemiology, Biomarkers & Prevention (2001), 10(10), 1047-1053
CODEN: CEBPE4; ISSN: 1055-9965
PB American Association for Cancer Research
DT Journal
LA English
AB High insulin-like growth factor-I (IGF-I) levels are associated with an increased risk of breast cancer in premenopausal women. Because the synthetic retinoid fenretinide showed a beneficial effect on second breast cancers in premenopausal women in a Phase III trial, we studied its long-term effects on IGF-I levels. We measured, at yearly intervals for up to 5 yr, the circulating levels of IGF-I, IGF binding protein (BP)-3, and their molar ratio in 60 subjects ≤50 yr of age and 60 subjects >50 yr of age allocated either to fenretinide or no treatment. In women ≤50 yr of age, measurements of IGF-II, IGFBP-1, and IGFBP-2 were also performed. The assocns. between biomarkers and drug or metabolite

plasma concns. were also investigated. All biomarkers were relatively stable over 5 yr in the control group. Compared with controls and after adjustment for baseline, treatment with fenretinide for 1 yr induced the following changes: IGF-I, -13% [95% confidence interval (CI), -25 to 1%] in women ≤50 yr of age and -3% (95% CI, -16 to 13%) in women >50 yr of age; IGFBP-3, -4% (95% CI, -12 to 6%) in both age groups; IGF-I:IGFBP-3 molar ratio, -11% (95% CI, -22 to 1%) in women ≤50 yr of age and 1% (95% CI, -11 to 16%) in women >50 yr of age. These effects were apparently maintained for up to 5 yr, although fewer samples were available as time progressed. No change in other IGF components was observed Drug and metabolite concns. were neg. correlated with IGF-I and IGF-I:IGFBP-3 molar ratio in women ≤50 yr of age. Fenretinide induces a moderate decline of IGF-I levels in women ≤50 yr of age. The association between IGF-I change and the reduction of second breast cancers in premenopausal women warrants further study.

IT **79965-10-9**, N-(4-Methoxyphenyl) retinamide
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(retinoic acid derivative fenretinide long-term effects on insulin-like growth factor system in women with early breast cancer)

RN 79965-10-9 CAPLUS

CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 12 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:520851 CAPLUS

DN 136:241213

TI Identification of retinamides that are more potent than N-(4-hydroxyphenyl)retinamide in inhibiting growth and inducing apoptosis of human head and neck and lung cancer cells

AU Sun, Shi-Yong; Yue, Ping; Kelloff, Gary J.; Steele, Vernon E.; Lippman, Scott M.; Hong, Waun K.; Lotan, Reuben

CS Departments of Thoracic/Head and Neck Medical Oncology, The University of Texas M. D. Anderson Cancer Center, Houston, TX, 77030, USA

SO Cancer Epidemiology, Biomarkers & Prevention (2001), 10(6), 595-601
CODEN: CEBPE4; ISSN: 1055-9965

PB American Association for Cancer Research

DT Journal

LA English

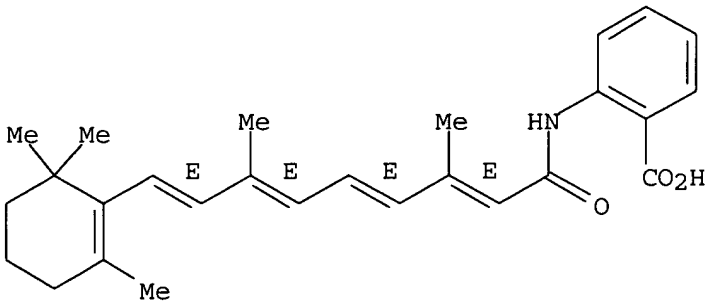
AB The synthetic retinoid, N-(4-hydroxyphenyl)retinamide (4HPR), which is currently being evaluated in clin. trials for cancer prevention and therapy, inhibits the growth of a variety of malignant cells through induction of apoptosis. However, in the majority of tumor cells, this inhibitory effect of 4HPR requires high concns. (>1 μM), which exceed the peak plasma level measured in humans. In the present study, we compared and contrasted the effects of several synthetic retinamides on the growth of human lung and head and neck cancer cells in vitro. We found that some retinamides, especially N-(2-carboxyphenyl)retinamide (2CPR), exhibited better growth inhibitory effects than 4HPR in some of the cell

lines. 2CPR exerted potent growth inhibitory effects in 5 of 10 head and neck cancer cell lines and in 1 of 10 lung cancer cell lines (IC50, <0.8 μM). 2CPR (1 μM) induced apoptosis ranging from 10 to 60% in four of five cell lines, whereas 4HPR was ineffective at the same concentration Unlike 4HPR, 2CPR (up to 10 μM) failed to induce reactive oxygen species production in these sensitive cell lines but could activate caspases 3 and 7 as well as increase poly(ADP-ribose)polymerase cleavage. Interestingly, the effect of 2CPR on cell growth could be suppressed by the specific retinoic acid receptor pan antagonist AGN193109. Our results suggest that 2CPR acts via retinoic acid receptors and may be a good candidate for prevention and treatment of some head and neck and lung cancers.

IT **74193-16-1 75664-75-4 75664-76-5**, N-(3-Hydroxyphenyl)retinamide **75664-78-7**, N-(3-Carboxyphenyl)retinamide **79965-10-9**, N-(4-Methoxyphenyl)retinamide
RL: DMA (Drug mechanism of action); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(identification of retinamides that are more potent than N-(4-hydroxyphenyl)retinamide in inhibiting growth and inducing apoptosis of human head and neck and lung cancer cells)

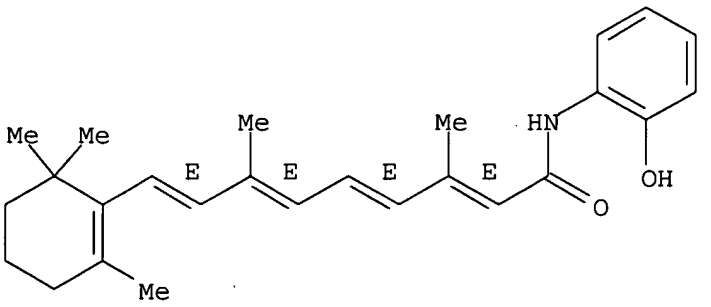
RN 74193-16-1 CAPLUS
CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



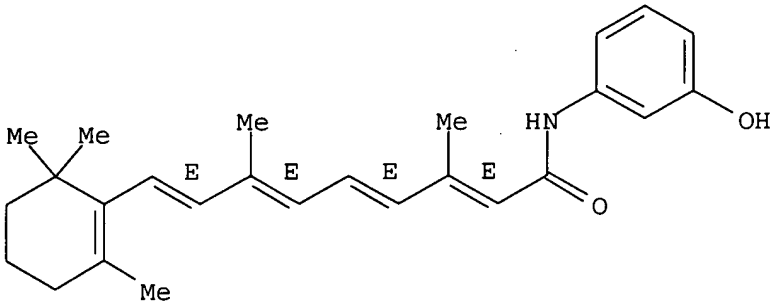
RN 75664-75-4 CAPLUS
CN Retinamide, N-(2-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



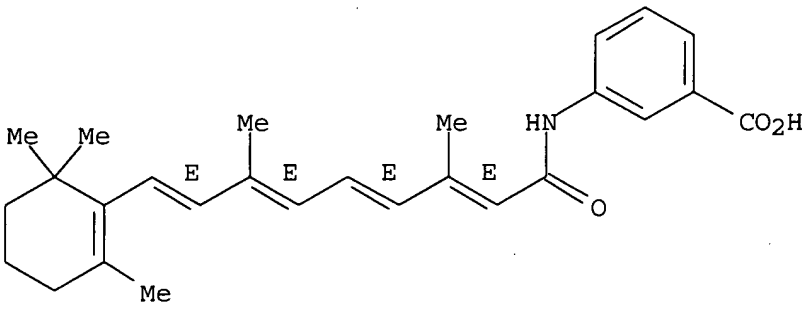
RN 75664-76-5 CAPLUS
CN Retinamide, N-(3-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

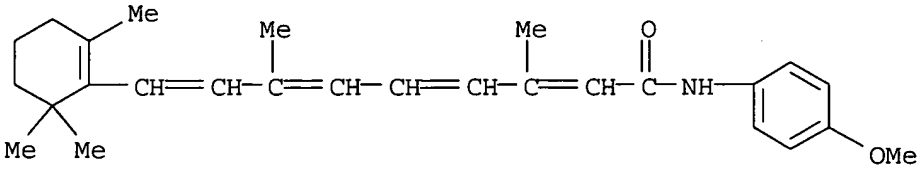


RN 75664-78-7 CAPLUS
CN Retinamide, N-(3-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

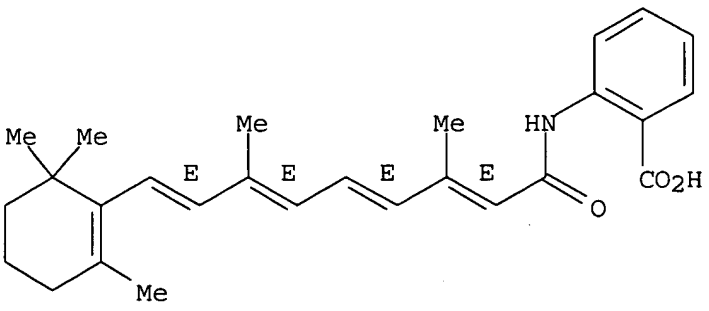


RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 13 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:382999 CAPLUS
DN 136:112276
TI Effects of novel phenylretinamides on cell growth and apoptosis in bladder cancer
AU Clifford, John L.; Sabichi, Anita L.; Zou, Changchun; Yang, Xiulan; Steele, Vernon E.; Kelloff, Gary J.; Lotan, Reuben; Lippman, Scott M.
CS Department of Clinical Cancer Prevention, The University of Texas M. D. Anderson Cancer Center, Houston, TX, 77030, USA
SO Cancer Epidemiology, Biomarkers & Prevention (2001), 10(4), 391-395
CODEN: CEBPE4; ISSN: 1055-9965
PB American Association for Cancer Research

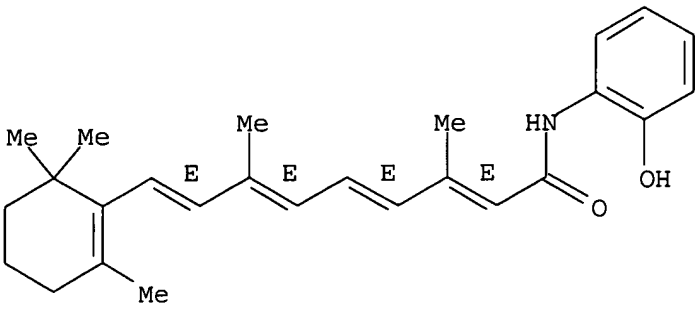
DT Journal
LA English
AB Superficial bladder cancer is a major target for chemoprevention. Retinoids are important modulators of epithelial differentiation and proliferation and are effective in the treatment and prevention of several epithelial cancers. One class of compds., the retinamides, is structurally similar to other retinoids but have the added feature of being potent apoptosis inducers. Among these, fenretinide (N-[4-hydroxyphenyl]retinamide), or 4HPR, has promise for bladder cancer chemoprevention and is currently under Phase III study in this setting. In addition to 4HPR, there are several new structurally related phenylretinamides bearing hydroxyl, carboxyl, or methoxyl residues on carbons 2, 3, and 4 of the terminal phenylamine ring [designated N-(2-hydroxyphenyl)retinamide, N-(3-hydroxyphenyl)retinamide, N-(2-carboxyphenyl)retinamide, N-(3-carboxyphenyl)retinamide, N-(4-carboxyphenyl)retinamide, and N-(4-methoxyphenyl)retinamide, resp.]. The objective of this study was to compare the growth inhibitory and apoptotic effects of these phenylretinamides with 4HPR in human bladder transitional cell cancer-derived cell lines of varying histol. grade (RT4, grade 1; UM-UC9 and UM-UC10, grade 3; and UM-UC14, grade 4) by cell counting, cell cycle fluorescence-activated cell sorter anal. and a dual stain apoptosis assay. All of the 7 phenylretinamides reduced cell number, altered the cell cycle distribution, and induced apoptosis when administered at a concentration of 10 μM, which is within the pharmacol. achievable range. Although the relative potencies of the phenylretinamides varied depending on the cell line, N-(3-hydroxy phenyl)retinamide was the most active with significantly greater growth inhibition than 4HPR in all of the 4 cell lines. These in vitro findings warrant further study of these novel phenylretinamides, which may have potential as preventive or therapeutic agents in transitional cell cancer.
IT **74193-16-1 75664-75-4 75664-76-5**, N-(3-Hydroxyphenyl)retin amide **75664-78-7**, N-(3-Carboxyphenyl)retinamide **79965-10-9**, N-(4-Methoxyphenyl)retinamide
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(novel phenylretinamides on cell growth and apoptosis in bladder cancer)
RN 74193-16-1 CAPLUS
CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



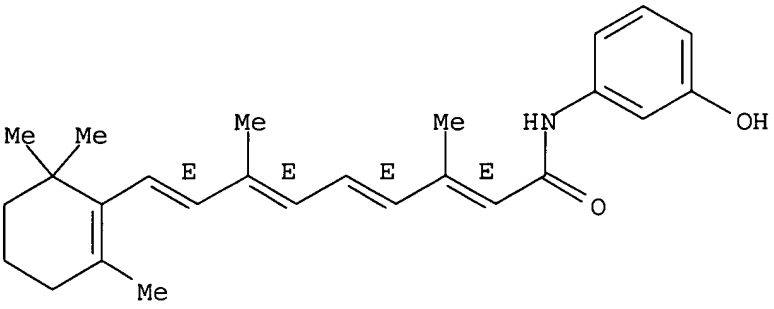
RN 75664-75-4 CAPLUS
CN Retinamide, N-(2-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



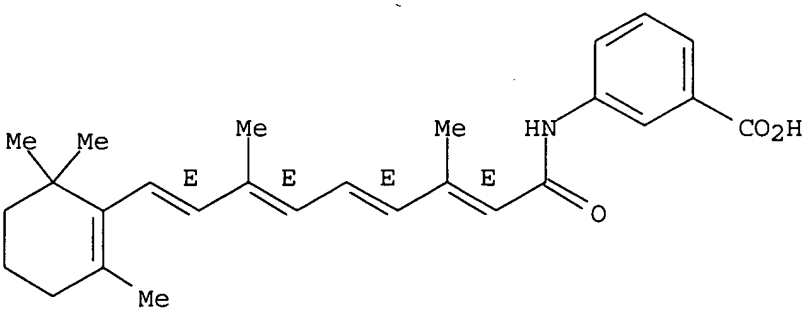
RN 75664-76-5 CAPLUS
CN Retinamide, N-(3-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

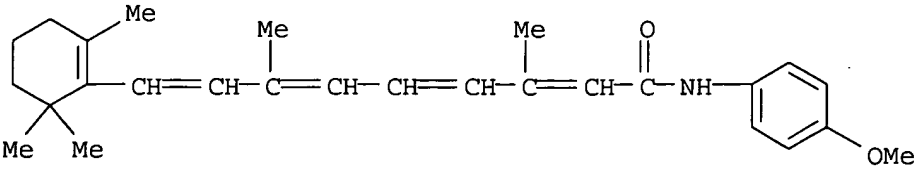


RN 75664-78-7 CAPLUS
CN Retinamide, N-(3-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

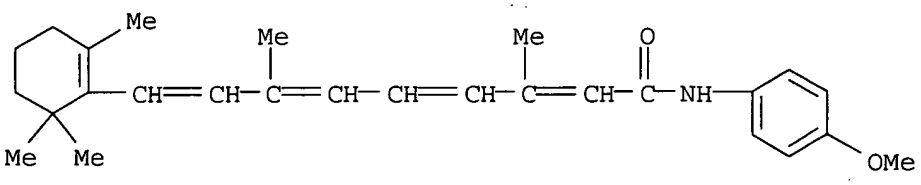


RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 14 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:867834 CAPLUS
DN 135:28754
TI Fenretinide therapy in prostate cancer: effects on tissue and serum retinoid concentration
AU Thaller, Christina; Shalev, Moshe; Frolov, Anna; Eichele, Gregor; Thompson, Timothy C.; Williams, Russel H.; Dillioglugil, Ozdal; Kadmon, Dov
CS Department of Biochemistry, Matsunaga-Conte Prostate Cancer Research Center, Baylor College of Medicine, Houston, TX, 77030, USA
SO Journal of Clinical Oncology (2000), 18(22), 3804-3808
CODEN: JCONDN; ISSN: 0732-183X
PB Lippincott Williams & Wilkins
DT Journal
LA English
AB Purpose: To examine the feasibility of using fenretinide (4-HPR) for the prevention and treatment of prostate cancer. Materials and Methods: We measured the impact of 4-HPR therapy on retinoid concns. in vivo, in a mouse model of prostate cancer and clin., in patients with prostate cancer who were given oral 4-HPR (200 mg/d) or placebo for 4 wk before undergoing a radical prostatectomy. Results: Prostate tumors in mice treated with 4-HPR contained high levels of 4-HPR and of all-trans-retinoic acid (RA) and reduced levels of retinol (ROH). Patients given 4-HPR were found to have significantly higher concns. of 4-HPR in the cancerous prostate as compared with the serum levels (463 nmol/L v 326 nmol/L; P = .049), but they were only 1/10 the levels found in mice and were far below the concns. reported in human breast tissue. Serum and tissue ROH levels were reduced to less than half the concns. found in untreated controls. RA concns. in human serum and in cancerous prostates were not significantly affected by 4-HPR treatment, in contrast with the findings in mice. Conclusion: The standard oral dose of 4-HPR proposed for breast cancer (200 mg/d) achieved only modest drug levels in the prostate and is unlikely to be effective for prostate cancer prevention or treatment. Higher doses need to be explored.
IT **79965-10-9**, N-(4-Methoxyphenyl)retinamide
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(effect of fenretinide therapy of prostate cancer on tissue and serum retinoid concentration)
RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 15 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:595020 CAPLUS
DN 134:65874

TI Differential response of normal, premalignant and malignant human oral epithelial cells to growth inhibition by chemopreventive agents

AU D'Ambrosio, Steven M.; Gibson-D'Ambrosio, Ruth; Milo, George E.; Casto, Bruce; Kelloff, Gary J.; Steele, Vernon E.

CS The Ohio State University School of Medicine and Public Health, Columbus, OH, 43210, USA

SO Anticancer Research (2000), 20(4), 2273-2280
CODEN: ANTRD4; ISSN: 0250-7005

PB International Institute of Anticancer Research

DT Journal

LA English

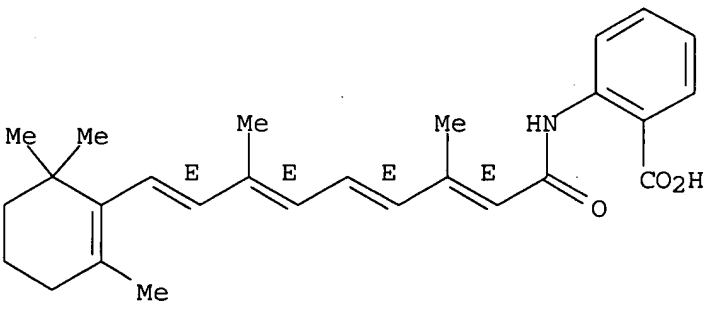
AB Squamous cell carcinoma (SCC) of the oral cavity is a multistep process, progressing through a series of discrete, irreversible and complementary alterations in genes that control cell growth, death, and differentiation. In the premalignant state, the oral mucosa progresses through various grades of epithelial dysplasia, with the potential to convert to SCC. Chemopreventive strategies are designed to suppress, reverse, or prevent the formation of premalignant lesions and their subsequent progression to SCC. In the present study, we determined the growth inhibitory effect of 21 chemopreventive agents in a cell culture model using normal, premalignant, and malignant human oral mucosal cell lines. There were significant differences in the growth inhibitory responses of these cell lines to selected retinoids and non-retinoid analogs. Among the retinoids tested, the synthetic retinamides, as a class, showed selective growth inhibition of both premalignant and malignant cells compared to normal human oral epithelial cells in culture. Within the retinamide class, 2CPR exhibited the greatest selectivity in the growth inhibition of premalignant and malignant cells. Among the non-retinoids analyzed, DFMO was a moderate to potent inhibitor of malignant and premalignant oral cell growth, resp., and stimulated normal oral cell growth at low concns. Using this in vitro approach, we have identified several potential chemopreventive agents for oral cancer as selective growth inhibitors of premalignant and malignant human oral mucosa cells.

IT **74193-16-1 75664-75-4 75664-76-5,** N-(3-Hydroxyphenyl)retinamide **75664-78-7,** N-(3-Carboxyphenyl)retinamide
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(differential response of normal, premalignant, and malignant human oral epithelium to growth inhibition by chemopreventive agents)

RN 74193-16-1 CAPLUS

CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

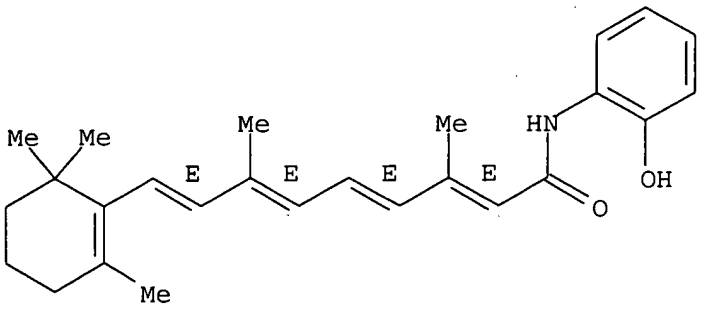
Double bond geometry as shown.



RN 75664-75-4 CAPLUS

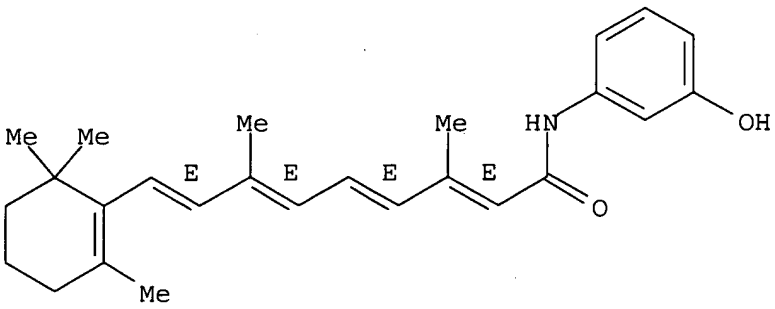
CN Retinamide, N-(2-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



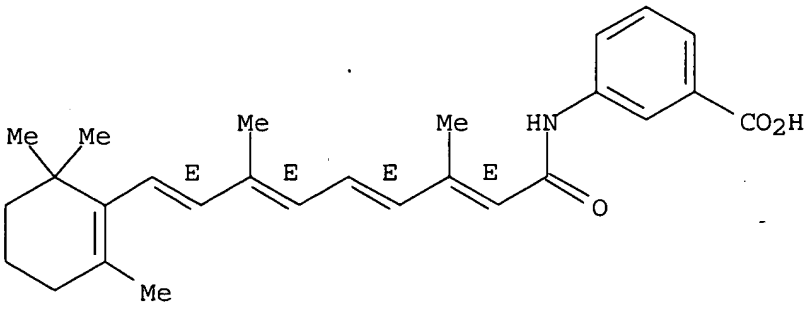
RN 75664-76-5 CAPLUS
CN Retinamide, N-(3-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 75664-78-7 CAPLUS
CN Retinamide, N-(3-carboxyphenyl)- (9CI) (CA INDEX NAME)

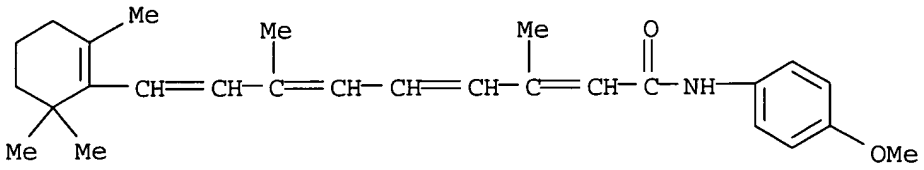
Double bond geometry as shown.



RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

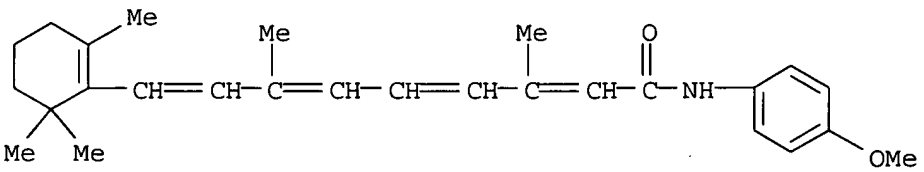
L11 ANSWER 16 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:12048 CAPLUS
DN 132:131932
TI Retinoid metabolism in the prostate: effects of administration of the

synthetic retinoid N-(4-hydroxyphenyl)retinamide
AU Lewis, Kevin C.; Hochadel, James F.
CS Basic Research Laboratory, Division of Basic Sciences, National Cancer Institute-Frederick Cancer Research and Development Center, Frederick, MD, 21702-1201, USA
SO Cancer Research (1999), 59(23), 5947-5955
CODEN: CNREA8; ISSN: 0008-5472
PB AACR Subscription Office
DT Journal
LA English
AB We have carried out a series of complementary in vivo and in vitro studies to better understand the metabolism of vitamin A by the prostate gland. Male Sprague-Dawley rats were fed either a control diet sufficient in vitamin A [CON group; 0.8 μg retinol equivalent (RE)/g diet] or a CON diet supplemented with the synthetic retinoid N-(4-hydroxyphenyl)-retinamide (4-HPR; CON+4HPR group; 1173 μg of 4-HPR/g diet). After an i.v. injection of a physiol. radiolabeled dose of retinol, the vitamin A content and radioactivity of plasma and a number of tissues, including the prostate glands, were monitored for time periods ranging between 30 min and 41 days. On the basis of the results of these vitamin A turnover studies, we developed tissue subsystem models to describe vitamin A dynamics in the prostates of both the CON and CON+4HPR groups. There was a gradual decrease in the vitamin A content of the prostates of the 4-HPR-treated group as compared with the control, such that by the end of the study period, the CON+4HPR group averaged 0.166 ± 0.0827 (mean ± SD) REs, whereas the CON group was 0.732 ± 0.190 REs. The fraction of vitamin A exiting the prostate each day was not significantly different in the CON as compared with the CON+4HPR group [0.149 ± 0.103 vs. 0.155 ± 0.191 h-1 (mean ± FSD), resp.]; however, the average amount of vitamin A turning over from the CON+4HPR group prostates (0.0885 μg/day) was nearly three times less than that of the CON group (0.243 μg/day). To obtain more detailed information on the mechanisms that might be involved in the changes in vitamin A kinetics observed in our in vivo studies, we used both a normal human prostate cell line (PrEC) and a human prostate adenocarcinoma cell line (LNCaP) to monitor in vitro retinol and 4-HPR dynamics. Cells were treated with 4-HPR for different time periods up to 48 h (PrEC) or 96 h (LNCaP). Retinol in the media was taken up readily by both PrEC and LNCaP cells, and there was conversion of retinol to the major storage esters of vitamin A, retinyl palmitate and retinyl stearate, as well as several minor retinyl esters, in a pattern indicative of normal retinoid esterification activity. Although 4-HPR was taken up readily and over time accumulated in both cell lines, conversion of 4-HPR to its major metabolite, N-[4-methoxyphenyl]retinamide, as well as several other metabolites of 4-HPR was apparent only in the LNCaP cells. Our findings would suggest that a study design that includes appropriately designed complementary in vivo and in vitro exptl. systems represents a useful approach to better understanding possible mechanisms involved in basic retinoid functioning and interactions in the prostate as well as in other organs and related tissue culture systems.
IT **79965-10-9**, N-(4-Methoxyphenyl)retinamide
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process)
(effects of synthetic retinoid N-(4-hydroxyphenyl)retinamide on retinoid metabolism in prostate)
RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RE.CNT 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 17 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:274090 CAPLUS
DN 131:96952
TI N-(4-Hydroxyphenyl)retinamide induces apoptosis in T lymphoma and T lymphoblastoid leukemia cells
AU Chan, Lee-Nien L.; Zhang, Shuliu; Shao, Jinyi; Waikel, Rebekah; Thompson, E. Aubrey; Chan, Teh-Sheng
CS Dept. of Human Biological Chemistry & Genetics, University of Texas Medical Branch at Galveston, Galveston, TX, 77555-0643, USA
SO Leukemia & Lymphoma (1997), 25(3/4), 271-280
CODEN: LELYEA; ISSN: 1042-8194
PB Harwood Academic Publishers
DT Journal
LA English
AB We demonstrate that N-(4-hydroxyphenyl)-all-trans-retinamide (4-HPR), a synthetic retinoic acid (RA) derivative, is a potent and selective inducer of apoptosis in malignant T lymphoid cells, but has little effect on normal lymphoid cells of the thymus or spleen. 4-HPR and its stereoisomer, 9-cis-4-HPR, are 50 to > 150 times more potent than 7 other retinoids in killing CEM-C7 human T lymphoblastoid leukemia cells and P1798-C7 murine T lymphoma cells. 4-HPR's apoptotic action requires the intact mol. bearing both the retinoid moiety and the hydroxyphenol ring; 4-HPR remains unmetabolized after uptake into CEM-C7 and P1798-C7 cells for up to 24 h. We also show that glucocorticoid (GC)-resistant variants are equally susceptible to 4-HPR as are GC-sensitive cells. Thus, 4-HPR may be potentially important as a new chemotherapeutic drug for use as alternative to, or in combination with, conventional drugs for treating lymphoid malignancies.
IT **79965-10-9**, N-(4-Methoxyphenyl)retinamide
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(effects of different retinoids on malignant lymphoid cells)
RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



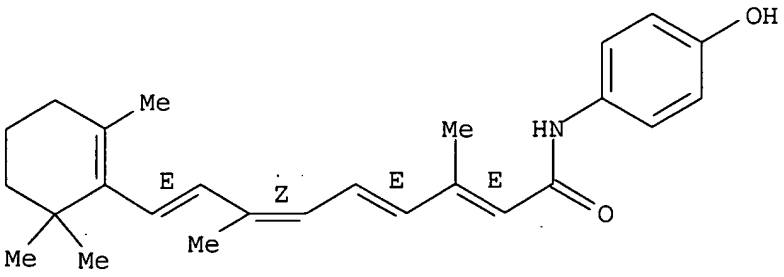
IT **231301-45-4**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(hydroxyphenylretinamide induces apoptosis in T lymphoma and T lymphoblastoid leukemia cells)

RN 231301-45-4 CAPLUS

CN Retinamide, N-(4-hydroxyphenyl)-, 9-cis- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 18 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1999:151359 CAPLUS

DN 130:320505

TI Effect of retinoids on AOM-induced colon cancer in rats: modulation of cell proliferation, apoptosis and aberrant crypt foci

AU Zheng, Ye; Kramer, Paula M.; Lubet, Ronald A.; Steele, Vernon E.; Kelloff, Gary J.; Pereira, Michael A.

CS Department of Pathology, Medical College of Ohio, Toledo, OH, 43614, USA

SO Carcinogenesis (1999), 20(2), 255-260
CODEN: CRNGDP; ISSN: 0143-3334

PB Oxford University Press

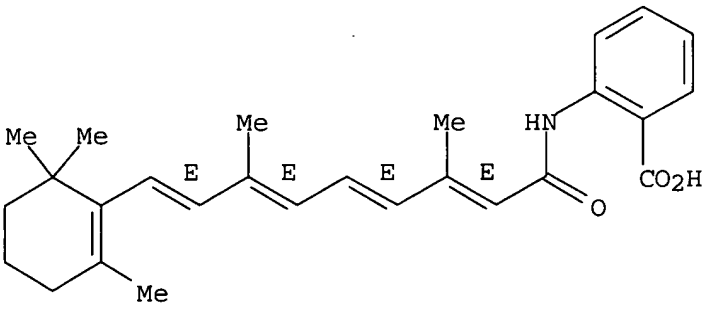
DT Journal

LA English

AB We have previously reported that the retinoids, 4-(hydroxyphenyl)retinamide (4-HPR) and 9-cis-retinoic acid (RA) prevented azoxymethane (AOM)-induced colon tumors and along with 2-(carboxyphenyl)retinamide (2-CPR) prevented aberrant crypt foci (ACF). In this study, we evaluated the effect of 2-CPR on AOM-induced colon tumors and the effect of the three retinoids on apoptosis and cell proliferation. Male F344 rats were administrated 15 mg/kg AOM at weeks 7 and 8 of age. 2-CPR (315 mg/kg) was administered in the diet starting either 1 wk before or at week 12 after the first dose of AOM. The rats continued to receive the 2-CPR until killed at week 46. Unlike the demonstrated prevention of colon cancer by the other two retinoids, both dosing schedules of 2-CPR resulted in an approx. doubling of the yield of colon tumors. In adenomas, 2-CPR, 4-HPR and 9-cis-RA were equally effective in reducing mitotic activity, while only 4-HPR and 9-cis-RA but not 2-CPR enhanced apoptosis. When administered for only the 6 days prior to killing 4-HPR but not 2-CPR decreased the Mitotic Index and increased the Apoptotic Index in adenomas. In non-involved crypts, chronic exposure to 4-HPR and 9-cis-RA in contrast to 2-CPR reduced the Mitotic Index and enhanced the Apoptotic Index. In concurrence with our previous study, both 2-CPR and 4-HPR were very potent in preventing ACF when administered in the diet starting 1 wk before the first dose of AOM and continuing for the 5 wk of the study. Hence, unlike the other two retinoids, 2-CPR, although very potent in preventing ACF, enhanced rather than prevented AOM-induced colon cancer. Furthermore, our results suggest that the effect of 2-CPR on tumor yield is different from 4-HPR and 9-cis-RA because, unlike them, it does not enhance apoptosis.

IT **74193-16-1**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(retinoids effect on colon cancer: modulation of cell proliferation, apoptosis and aberrant crypt foci)
RN 74193-16-1 CAPLUS
CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

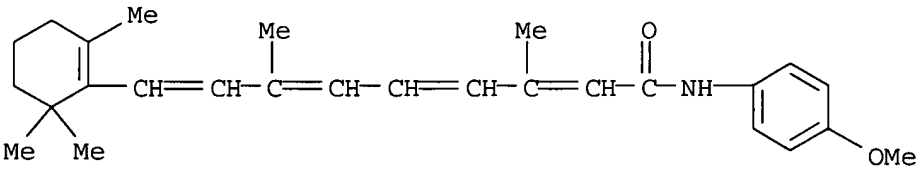
L11 ANSWER 19 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:151355 CAPLUS
DN 130:306184
TI Inhibition of aberrant proliferation and induction of apoptosis in HER-2/neu oncogene transformed human mammary epithelial cells by N-(4-hydroxyphenyl)retinamide
AU Jinno, Hiromitsu; Steiner, Melissa G.; Mehta, Rajendra G.; Osborne, Michael P.; Telang, Nitin T.
CS Division of Carcinogenesis and Prevention, Strang Cancer Research Laboratory, The Rockefeller University, New York, NY, 10021, USA
SO Carcinogenesis (1999), 20(2), 229-236
CODEN: CRNGDP; ISSN: 0143-3334
PB Oxford University Press
DT Journal
LA English
AB Epithelial cells from non-cancerous mammary tissue in response to exposure to chemical carcinogens or transfection with oncogenes exhibit hyperproliferation and hyperplasia prior to the development of cancer. Aberrant proliferation may, therefore, represent a modifiable early occurring preneoplastic event that is susceptible to chemoprevention of carcinogenesis. The synthetic retinoid N-(4-hydroxyphenyl)retinamide (HPR), has exhibited preventive efficacy in several in vitro and in vivo breast cancer models, and represents a promising chemopreventive compound for clin. trials. Clin. relevant biochem. and cellular mechanisms responsible for the chemopreventive effects of HPR, however, are not fully understood. Expts. were performed on preneoplastic human mammary epithelial 184-B5/HER cells derived from reduction mammoplasty and initiated for tumorigenic transformation by over-expression of HER-2/neu oncogene, to examine whether HPR inhibits aberrant proliferation of these cells and to identify the possible mechanism(s) responsible for the inhibitory effects of HPR. Continuous 7-day treatment with HPR produced a dose-dependent, reversible growth inhibition. Long-term (21 day) treatment of 184-B5/HER cells with HPR inhibited anchorage-dependent

colony formation by .apprx.80% (P < 0.01) relative to that observed in the solvent control. A 24 h treatment with cytostatic 400 nM HPR produced a 25% increase (P = 0.01) in G0/G1 phase, and a 36% decrease (P = 0.01) in S phase of the cell cycle. HPR treatment also induced a 10-fold increase (P = 0.02) in the sub-G0 (apoptotic) peak that was down-regulated in the presence of the antioxidant N-acetyl-L-cysteine. Treatment with HPR resulted in a 30% reduction of cellular immunoreactivity to tyrosine kinase, whereas immunoreactivity to p185HER remained essentially unaltered. HPR exposure resulted in time-dependent increase in cellular metabolism of the retinoid as evidenced by increased formation of the inert metabolite N-(4-methoxyphenyl)-retinamide (MPR) and progressive increase in apoptosis. Thus, HPR-induced inhibition of aberrant proliferation may be caused, in part, by its ability to inhibit HER-2/neu-mediated proliferative signal transduction, retard cell cycle progression and upregulate cellular apoptosis.

IT **79965-10-9**, N-(4-Methoxyphenyl)-retinamide
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process)
(N-(4-hydroxyphenyl)retinamide inhibition of aberrant proliferation and induction of apoptosis in HER-2/neu oncogene transformed human mammary epithelial cells)

RN 79965-10-9 CAPLUS

CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RE.CNT 64 THERE ARE 64 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 20 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1998:400145 CAPLUS

DN 129:170165

TI Metabolism of N-[4-hydroxyphenyl]retinamide (4-HPR) to N-[4-methoxyphenyl]retinamide (4-MPR) may serve as a biomarker for its efficacy against human breast cancer and melanoma cells

AU Mehta, R. R.; Hawthorne, M. E.; Graves, J. M.; Mehta, R. G.

CS Department of Surgical Oncology, College of Medicine, University of Illinois, Chicago, IL, 60612, USA

SO European Journal of Cancer (1998), 34(6), 902-907
CODEN: EJCAEL; ISSN: 0959-8049

PB Elsevier Science Ltd.

DT Journal

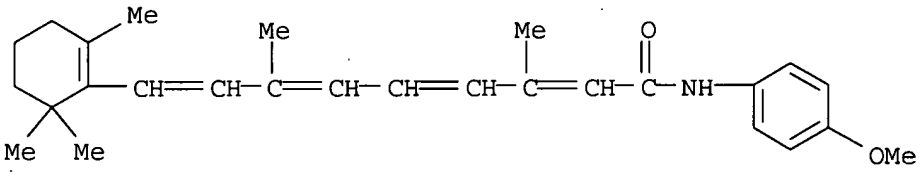
LA English

AB A clin. trial of N-[4-hydroxyphenyl]retinamide (4-HPR) has been in progress for the past 4 yr to evaluate its role in chemoprevention of breast cancer. However, it is currently not known whether the effect of 4-HPR in breast cells is mediated by 4-HPR directly or through one of its metabolites. In this report, we investigated in vivo and in vitro effects of 4-HPR on three different breast carcinoma cells and two different melanoma cell lines. In vitro, the growth of all three breast carcinoma cell lines was inhibited by 4-HPR. Only one of two melanoma cell lines (UISO-Mel-1) showed growth inhibition to 4-HPR. The cell lines sensitive

to 4-HPR in vitro also showed inhibition to 4-HPR in a xenograft model. Dietary 4-HPR (0.5 mmol/kg diet) reduced the growth of UISO-BCA-1 xenografts in female athymic mice, but had no effect on UISO-Mel-6 xenografts. Metabolism investigations of the 4-HPR-sensitive and insensitive cell lines indicated that N-[4-methoxyphenyl]retinamide (4-MPR), the major metabolite of 4-HPR, was detected only in cells sensitive to 4-HPR. Further in vitro studies with 4-MPR suggested that it is not an active metabolite of 4-HPR as it failed to inhibit growth of 4-HPR-resistant UISO-Mel-6 cells, and showed no dose-dependent inhibition of 4-HPR-sensitive breast carcinoma and melanoma cell lines. Our results in the present study indicate that, although 4-MPR is not an active metabolite of 4-HPR, detection of this metabolite in the malignant cells may serve as an indirect biomarker to predict response of cells to 4-HPR.

IT **79965-10-9**, N-[4-Methoxyphenyl]retinamide
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
((methoxyphenyl)retinamide as biomarker for efficacy of (hydroxyphenyl)retinamide against human breast cancer and melanoma cells)

RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

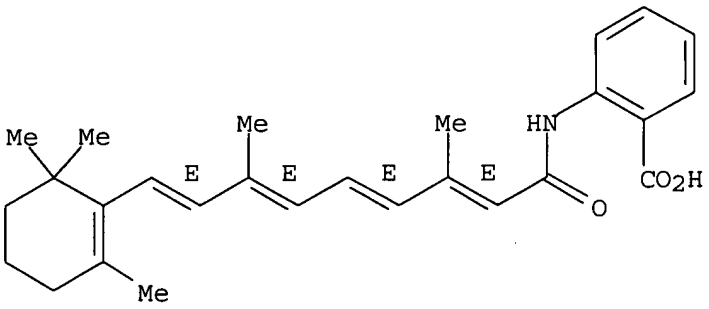
L11 ANSWER 21 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:296327 CAPLUS
DN 129:89997
TI Screening of potential cancer-preventing chemicals for inhibition of induction of ornithine decarboxylase in epithelial cells from rat trachea
AU White, E. Lucile; Ross, Larry J.; Schmid, Steven M.; Kelloff, Gary J.; Steele, Vernon E.; Hill, Donald L.
CS Southern Research Institute, Birmingham, AL, 35255-5305, USA
SO Oncology Reports (1998), 5(3), 717-722
CODEN: OCRPEW; ISSN: 1021-335X
PB Oncology Reports
DT Journal
LA English
AB Sixty-one selected chems. were evaluated in rat tracheal epithelial (2C5) cells for their capacity to inhibit induction (or inhibit directly) the enzyme ornithine decarboxylase, the activity of which is associated with cell growth and division. α-Difluoromethylornithine (DFMO) was used as a pos. control. At non-toxic concns., six test compds. had substantial activity (values for IC50 DFMO/IC50 compound >1): N-(2-carboxyphenyl)-all-trans-retinamide, ZK 119010 (2-(4-hydroxyphenyl)-3-methyl-1-[6-(1-pyrrolidinyl)hexyl]-1H-indol-5-ol), curcumin, 18-α-olean-12-ene-3β,23,28-triol, genistein and phenethyl isothiocyanate. These should be considered for further development as cancer preventive agents.

IT **74193-16-1**, N-(2-Carboxyphenyl)-all-trans-retinamide
75664-75-4, N-(2-Hydroxyphenyl)-all-trans-retinamide

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(screening of potential cancer-preventing chems. for inhibition of induction of ornithine decarboxylase in epithelial cells from rat trachea)

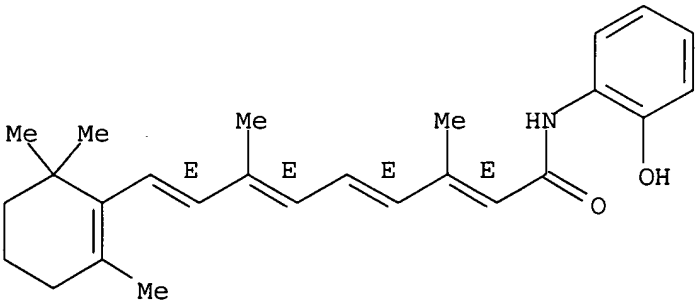
RN 74193-16-1 CAPLUS
CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 75664-75-4 CAPLUS
CN Retinamide, N-(2-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

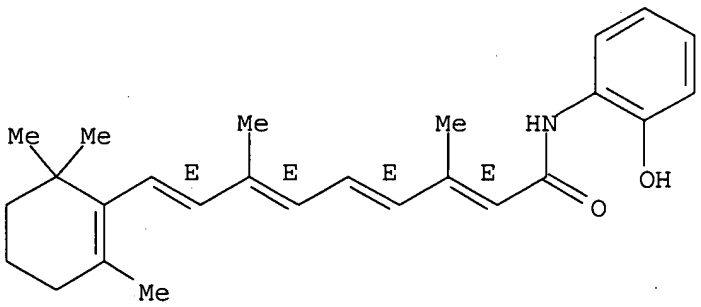
L11 ANSWER 22 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:213192 CAPLUS
DN 128:289739
TI Growth inhibition of DU-145 prostate cancer cells by a Bcl-2 antisense oligonucleotide is enhanced by N-(2-hydroxyphenyl)all-trans retinamide
AU Campbell, M. J.; Dawson, M.; Koeffler, H. P.
CS Division of Hematology/Oncology, Cedars-Sinai Medical Center/UCLA School of Medicine, Los Angeles, CA, 90048, USA
SO British Journal of Cancer (1998), 77(5), 739-744
CODEN: BJCAAI; ISSN: 0007-0920
PB Churchill Livingstone
DT Journal
LA English
AB Hormonally insensitive prostate cancer is a relatively slow-growing, but usually fatal, disease with no long-term treatment options.

Transformation of normal prostate cells to a malignant phenotype often involves corruption of the apoptotic machineries. Bcl-2 protein is one of the key inhibitors of apoptosis and is often unregulated in advanced prostate cancer. The prostate cancer cell line DU-145 was used as a model of a hormonally insensitive, advanced prostate cancer. Cell growth in liquid culture was significantly inhibited by antisense Bcl-2 oligonucleotides compared with control sense oligonucleotides; inhibition by these oligonucleotides was significantly enhanced on combination with the synthetic retinoid N-(2-hydroxyphenyl)all-trans-retinamide (2-HPR). Interestingly, growth inhibition occurred in the absence of apoptosis as measured using two assay techniques. We hypothesize that in these recalcitrant cells the apoptotic pathway is compromised at several levels, and Bcl-2 may play another role in promoting cell growth. The use of Bcl-2 antisense oligonucleotides plus 2-HPR may provide a novel approach to therapy of hormone-resistant prostate cancer.

IT **75664-75-4**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prostate cancer inhibition by a Bcl-2 antisense oligonucleotide is enhanced by N-(2-hydroxyphenyl)all-trans retinamide)

RN 75664-75-4 CAPLUS
CN Retinamide, N-(2-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RE.CNT 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 23 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:144760 CAPLUS
DN 128:252634
TI Screening of potential cancer preventing chemicals for induction of glutathione in rat liver cells
AU White, E. Lucile; Ross, Larry J.; Schmid, Steven M.; Kellof, Gary J.; Steele, Vernon E.; Hill, Donald L.
CS South. Res. Inst., Birmingham, AL, 35255-5305, USA
SO Oncology Reports (1998), 5(2), 507-512
CODEN: OCRPEW; ISSN: 1021-335X
PB Oncology Reports
DT Journal
LA English
AB With BRL 3A hepatocytes, a series of selected, potentially chemopreventive chems. was evaluated for their capacity to elevate glutathione (GSH) levels. Since sodium selenite consistently increased GSH levels by .apprx.70%, it was selected as a pos. control. Of 62 test chems., eighteen stimulated GSH levels by >30%, but eleven of these had only a

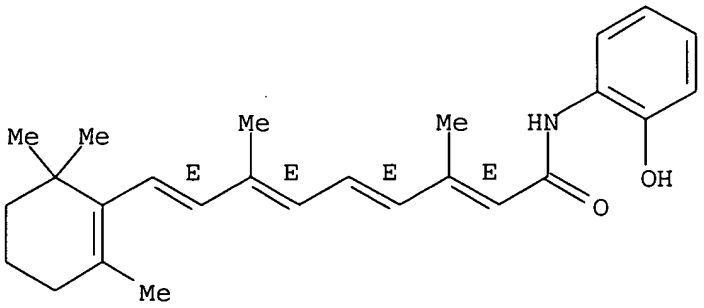
modest effect or displayed considerable toxicity. At non-toxic concns., seven compds. had substantial activity: black tea extract (decaffeinated), trans-chalcone, N-ethyl-9-cis-retinamide, indole-3-carbinol, dehydroepiandrosterone (DHEA) curcumin and N-(4-carboxyphenyl)retinamide. These should be considered for further development as cancer preventive agents.

IT **75664-75-4**, Retinamide, n-(2-hydroxyphenyl)-
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(screening of potential cancer preventing chems. for induction of glutathione in hepatocytes)

RN 75664-75-4 CAPLUS

CN Retinamide, N-(2-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RE.CNT 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 24 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1997:779682 CAPLUS

DN 128:110488

TI Prevention by retinoids of azoxymethane-induced tumors and aberrant crypt foci and their modulation of cell proliferation in the colon of rats

AU Zheng, Ye; Kramer, Paula M.; Olson, Greg; Lubet, Ronald A.; Steele, Vernon E.; Kelloff, Gary J.; Pereira, Michael A.

CS Department of Pathology, Medical College of Ohio, Toledo, OH, 43614, USA

SO Carcinogenesis (1997), 18(11), 2119-2125
CODEN: CRNGDP; ISSN: 0143-3334

PB Oxford University Press

DT Journal

LA English

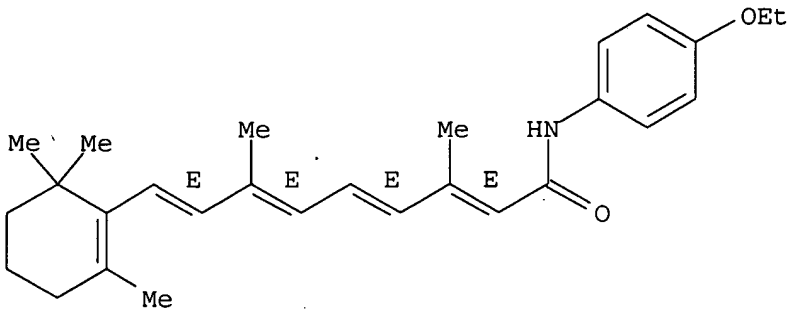
AB Retinoids are proposed chemopreventive agents that inhibit cell proliferation and induce differentiation. Their ability to prevent azoxymethane (AOM)-induced aberrant crypt foci (ACF) and tumors and to modulate cell proliferation was investigated in the colon of male F344 rats. Thirteen retinoids were evaluated for prevention of ACF and two of them, 9-cis-retinoic acid (RA) and 4-(hydroxyphenyl)retinamide (4-HPR), were also evaluated for prevention of colon cancer. The retinoids were administered continuously in the diet starting 1 wk prior to the first of two weekly 15 mg/kg i.p. injections of AOM and for a total of either 5 or 36 wk in order to evaluate their effect on colonic ACF and tumors. At a concentration of 1 mmol/kg diet, 2-(carboxyphenyl)retinamide caused the greatest reduction (57.7%) in the yield of ACF. 9-Cis-RA was toxic at 1 mmol/kg so that it was evaluated at 0.1 mmol/kg, resulting in a 41.6% reduction in ACF.

The ability of the retinoids to reduce the proliferating cell nuclear antigen (PCNA) labeling index in ACF and in non-involved crypts correlated with their ability to prevent ACF. Both 9-cis-RA (0.1 and 0.2 mmol/kg diet) and 4-HPR (1 and 2 mmol/kg diet) were highly effective in decreasing the yield of AOM-induced colon tumors. In summary, retinoids were demonstrated to reduce cell proliferation and to prevent ACF and tumors in the colon, suggesting promise as preventive agents for colon cancer.

IT **53839-73-9**, Retinamide, N-(4-ethoxyphenyl)- **74193-16-1**, Retinamide, N-(2-carboxyphenyl)- **75664-75-4**, Retinamide, N-(2-hydroxyphenyl)- **75664-76-5**, Retinamide, N-(3-hydroxyphenyl)- **75664-78-7**, Retinamide, N-(3-carboxyphenyl)- **79965-10-9**, Retinamide, N-(4-methoxyphenyl)-
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(retinoids prevention of azoxymethane-induced tumors and aberrant crypt foci and modulation of cell proliferation in rat colon)

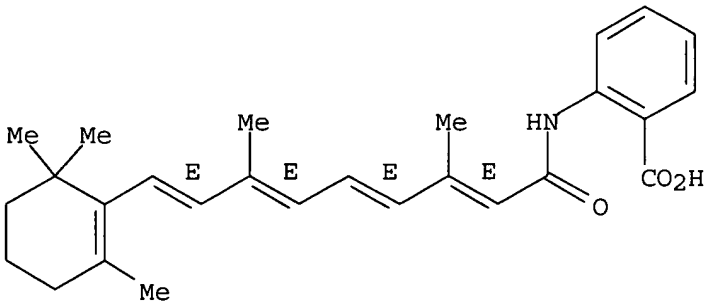
RN 53839-73-9 CAPLUS
CN Retinamide, N-(4-ethoxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



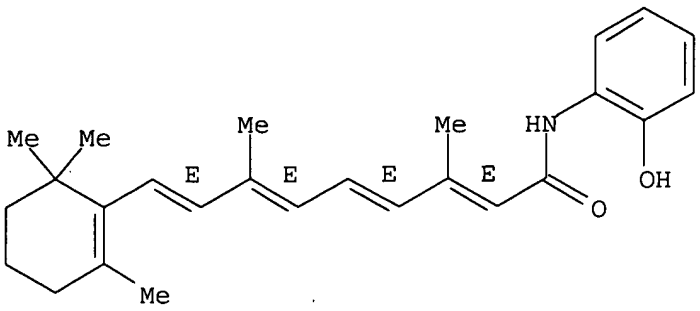
RN 74193-16-1 CAPLUS
CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



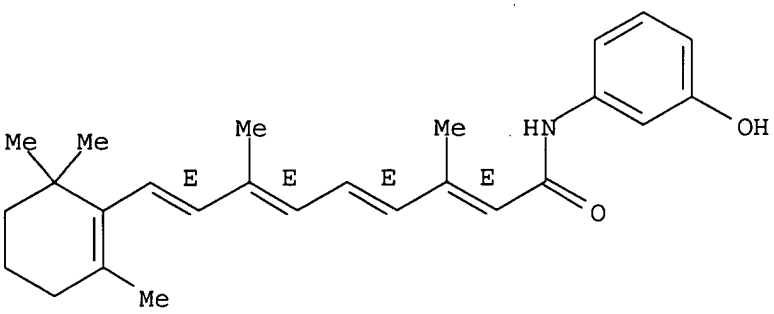
RN 75664-75-4 CAPLUS
CN Retinamide, N-(2-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



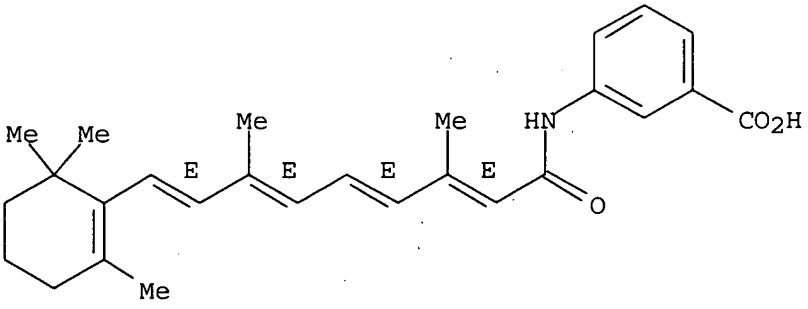
RN 75664-76-5 CAPLUS
CN Retinamide, N-(3-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

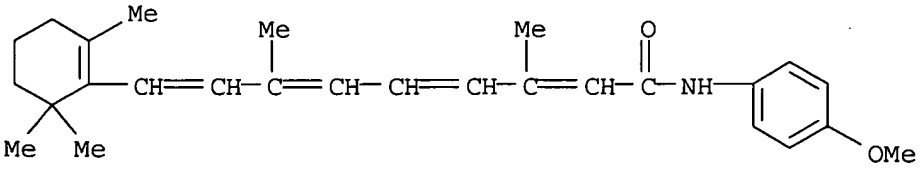


RN 75664-78-7 CAPLUS
CN Retinamide, N-(3-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

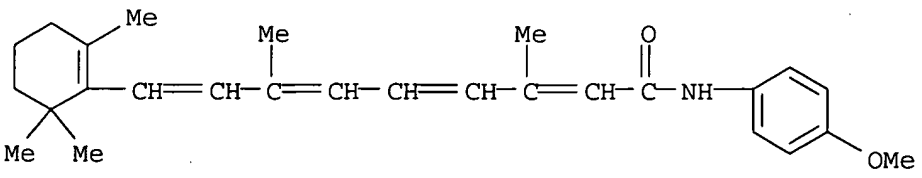


RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



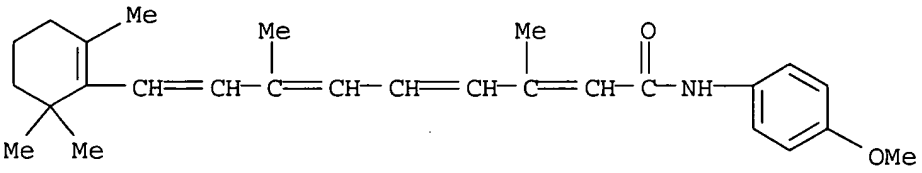
RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 25 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1997:593942 CAPLUS
DN 127:242930
TI Involvement of reactive oxygen species in N-(4-hydroxyphenyl)retinamide-induced apoptosis in cervical carcinoma cells
AU Oridate, Nobuhiko; Suzuki, Seigo; Higuchi, Masahiro; Mitchell, Michele F.; Hong, Waun K.; Lotan, Reuben
CS Department of Tumor Biology, The University of Texas M. D. Anderson Cancer Center, Houston, TX, 77030, USA
SO Journal of the National Cancer Institute (1997), 89(16), 1191-1198
CODEN: JNCIEQ; ISSN: 0027-8874
PB Oxford University Press
DT Journal
LA English
AB The inhibitory effects of N-(4-hydroxyphenyl)-retinamide (4HPR) on tumorigenesis and tumor growth may result from its ability to induce apoptosis (programmed cell death). Since antioxidants inhibit 4HPR-induced apoptosis, expts. were planned to determine whether the levels of reactive oxygen species increase in cells undergoing apoptosis after exposure to 4HPR. Cells of the human cervical carcinoma cell line C33A and normal human cervical epithelial cells were treated with 4HPR and analyzed for survival, induction of apoptosis, generation of reactive oxygen species, and expression of the apoptosis-related proteins Bcl-2 and Bax. Treatment with 4HPR decreased C33A cell number by inducing apoptosis in a time- and dose-dependent fashion. DNA fragmentation typical of apoptosis was observed in cells exposed to 4HPR at concns. of 3 μM or higher for 6-24 h. The generation of reactive oxygen species was enhanced by 1.85-fold to 4.5-fold after a 1.5-h treatment with 0.4-10 μM 4HPR. Pyrrolidine dithiocarbamate, an oxygen radical scavenger, suppressed the rate of generation of reactive oxygen species and inhibited 4HPR-induced apoptosis. 4HPR failed to modulate cellular levels of the Bcl-2 and Bax proteins. N-(4-Methoxyphenyl)-retinamide, the major 4HPR metabolite, and several other retinoids that bind to nuclear retinoic acid receptors or retinoid X receptors failed to enhance the generation of reactive oxygen species and to induce apoptosis. 4HPR was much less effective in generating reactive oxygen species and in inducing apoptosis in normal human cervical epithelial cells than in C33A cervical carcinoma cells. Enhancement of the generation of reactive oxygen species may be involved in apoptotic pathway induction by 4HPR.
IT **79965-10-9**, N-(4-Methoxyphenyl)-retinamide
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(ability of retinoids to induce apoptosis in cervical carcinoma cells)
RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RE.CNT 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

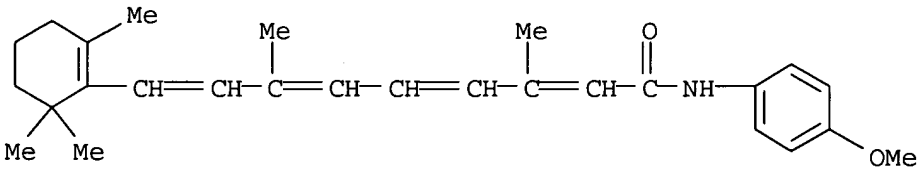
L11 ANSWER 26 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1997:335496 CAPLUS
DN 127:44538
TI Role of antioxidants and intracellular free radicals in retinamide-induced cell death
AU Delia, Domenico; Aiello, Antonella; Meroni, Luca; Nicolini, Marco; Reed, John C.; Pierotti, Marco A.
CS Ist. Nazionale Tumori, Milan, 20133, Italy
SO Carcinogenesis (1997), 18(5), 943-948
CODEN: CRNGDP; ISSN: 0143-3334
PB Oxford University Press
DT Journal
LA English
AB The cancer chemopreventive synthetic retinoid N-(4-hydroxyphenyl)retinamide (HPR) possess antiproliferative and apoptotic activity at pharmacol. doses. In this study, the authors show that addition of antioxidants to HL-60 cells cultured in the presence of 3 μM HPR markedly suppresses the apoptotic effect of the retinoid and significantly prolongs cell survival (48-96 h). The authors also show, by the use of the oxidation-sensitive probe 2',7'-dichlorofluorescin diacetate (DCF-DA) and in combination with flow cytometric and spectrofluorimetric anal., that treatment of cells with 3 μM HPR results in an immediate and sustained production of intracellular free radicals, most likely hydroperoxides. Interestingly, the formation of these HPR-induced free radicals is effectively blocked by the water soluble antioxidants L-ascorbic acid and N-acetyl-L-cysteine. Neither 3-15 μM N-(4-methoxyphenyl)retinamide (MPR), the structurally similar but biol. inert analog of HPR, nor 3 μM doses of the retinoids all-trans retinoic acid, 9-cis-retinoic acid, TTNPB and SR11237 induce intracellular free radicals, thus indicating that the specificity of this phenomenon is restricted to HPR. Altogether, the authors provide the first direct evidence that HPR stimulates the generation of intracellular free radicals, which appear to have a causative role in the induction of apoptosis in vitro. The authors findings raise the possibility that the therapeutic efficacy of HPR may, at least in part, depend on these apoptosis-inducing oxidative phenomena.
IT **79965-10-9**, N-(4-Methoxyphenyl)retinamide
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(role of antioxidants and intracellular free radicals in retinamide-induced cell death in tumor cells)
RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 27 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1996:736759 CAPLUS
DN 126:112754

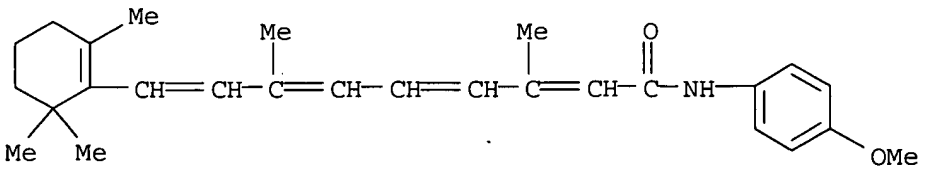
TI Inhibition of herpes simplex virus replication by retinoic acid
AU Isaacs, Charles E.; Kascsak, Richard; Pullarkat, Raju K.; Xu, Weimin; Schneidman, Karmela
CS Department of Developmental Biochemistry, New York State Institute for Basic Research, 1050 Forest Hill Road, Staten Island, NY, 10314, USA
SO Antiviral Research (1997), 33(2), 117-127
CODEN: ARSRDR; ISSN: 0166-3542
PB Elsevier
DT Journal
LA English
AB The retinoic acid (RA) isomers all-trans-RA, 9-cis-RA and 13-cis-RA as well as other retinoids were tested for their ability to reduce the yield of herpes simplex virus-1 (HSV-1). RA isomers reduced HSV-1 replication whereas the other retinoids, retinol, retinal, β-carotene and amide derivs. of RA were not inhibitory. All-trans-RA reduced the yield of HSV-1 by 100-fold at 5 μg/mL but 9-cis-RA and 13-cis-RA reduced viral replication by 10-fold. At a concentration of 10 μg/mL all-trans-RA and 9-cis-RA reduced virus yield by 1000-fold while 13-cis-RA decreased HSV-1 production by 100-fold. RA isomers at a concentration of 10 μg/mL were not cytotoxic for the Vero cells used in these studies. Immunofluorescence studies showed that all-trans-RA treated cell cultures exhibited small foci of virus specific immunostaining while untreated cultures displayed intense HSV-1 immunoreactivity in virtually the entire cell population. RA-dependent inhibition of HSV-1 replication required the presence of RA with the virus. HSV-1 replication proceeded when RA was removed from infected cells. Treatment of cell cultures with RA did not induce gene expression for type-1 interferon (IFN) or for the type-1 IFN inducible genes studied suggesting that RA inhibition of HSV-1 replication is not mediated by IFN. These studies have established the ability of RA to reduce the replication of HSV-1 in vitro.
IT **79965-10-9**, N-(4-Methoxyphenyl)retinamide
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(inhibition of herpes simplex virus replication by retinoic acid in relation to type-1 interferon gene expression)
RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

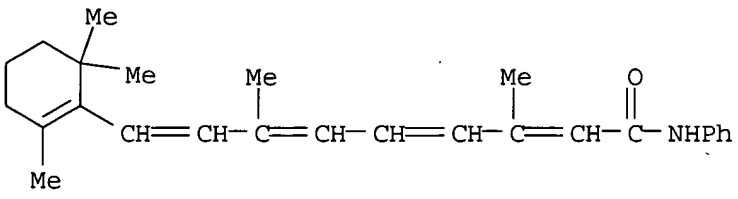
L11 ANSWER 28 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1996:136737 CAPLUS
DN 124:219724
TI Comparison of N-(4-hydroxyphenyl)retinamide and all-trans-retinoic acid in the regulation of retinoid receptor-mediated gene expression in human breast cancer cell lines
AU Kazmi, Syed M. I.; Plante, Richard K.; Visconti, Vito; Lau, Catherine Y.
CS Discovery Res., R. W. Johnson Pharmaceutical Res. Inst., Don Mills, ON, M3C 1L9, Can.

SO Cancer Research (1996), 56(5), 1056-62
CODEN: CNREA8; ISSN: 0008-5472
PB American Association for Cancer Research
DT Journal
LA English
AB The activities of N-(4-hydroxyphenyl)retinamide [(4-HPR), Fenretinide] and all-trans-retinoic acid (RA) were determined for (a) the inhibition of cell proliferation; (b) the activation of human retinoid receptor-mediated target gene expression; (c) the inhibition of estradiol- and progesterone-induced gene activation in breast cancer cell lines; and (d) the regulation of the expression of tumor suppressor retinoblastoma protein. Similar to RA, both 4-HPR and its active metabolite N-(4-methoxyphenyl)retinamide (4-MPR) effectively impeded the growth of MCF7 and T-47D human breast cancer cell lines, except that 4-HPR also inhibited the proliferation of RA-resistant BT-20 cells. However, when tested in human recombinant retinoic acid receptor (RAR-α, RAR-β, and RAR-γ)-induced reporter gene assays, RA was much more potent (>100-fold) than either 4-HPR or 4-MPR. 4-HPR induced transcriptional activation through all three RAR subtypes at 1-10 μM, while RA showed comparable activity at 10-100 nM. Despite the apparent weak interaction at the RAR level, 4-HPR was comparable to RA in the inhibition of both estrogen receptor- and progesterone receptor-mediated transcriptional activation in MCF7 and T-47D cells, resp. Moreover, similar to RA, 4-HPR and 4-MPR caused marked up-regulation of tumor suppressor retinoblastoma protein in both MCF7 and T-47D cells. Since RA and 4-HPR showed comparable activity in the inhibition of estrogen receptor- and progesterone receptor-induced gene transcription and in the stimulation of retinoblastoma protein expression in MCF7 and T-47D cells, the reduced RAR activation by 4-HPR may result in the lack of hepatic toxicity and therefore the improved therapeutic efficacy relative to RA.
IT **79965-10-9**, N-(4-Methoxyphenyl)retinamide
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(comparison of N-(4-hydroxyphenyl)retinamide and all-trans-retinoic acid in the regulation of retinoid receptor-mediated gene expression in human breast cancer cell lines)
RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

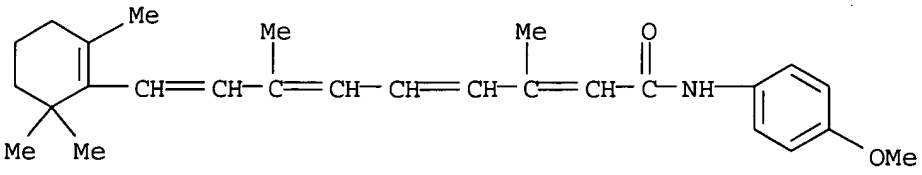


L11 ANSWER 29 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:898809 CAPLUS
DN 123:329500
TI N-(4-hydroxyphenyl)retinamide: interactions with retinoid-binding proteins/receptors
AU Sani, Brahma P.; Shealy, Y. Fulmer; Hill, Donald L.
CS Southern Res. Inst., Kettering-Meyer Laboratory, Birmingham, AL, 35255-5305, USA
SO Carcinogenesis (1995), 16(10), 2531-4
CODEN: CRNGDP; ISSN: 0143-3334

PB Oxford University Press
DT Journal
LA English
AB The cellular transport, metabolism and biol. activity of retinoids are mediated by their specific binding proteins and nuclear receptors. For an understanding of the mode of action of retinoids with potential cancer chemopreventive or other biol. activity, it is important to study their interactions with these binding proteins and receptors. In our attempts to understand the action of N-(4-hydroxyphenyl)retinamide (4HPR) and other retinamides in the prevention of cancer, we observed that 4HPR binds to a serum protein with a mol. size of .apprx.20 000. The retinoid, however, did not show any binding affinity for cellular retinol-binding protein (CRBP) or for cellular retinoic acid-binding protein (CRABP). However, it showed binding affinity for the nuclear receptors of retinoic acid (RARs) equivalent to 15% of that of retinoic acid. The physicochem. properties of the 4HPR binding protein in the serum were identical to those of serum retinol binding protein (RBP). Antibodies against RBP quant. immunopptd. the protein-4HPR complex, confirming that the retinoid specifically binds to RBP. Although retinol and 4HPR cross-competed for RBP binding, N-phenylretinamide, in which the 4-hydroxyl group is absent, and N-(4-methoxyphenyl)retinamide, a major cellular metabolite of 4HPR, in which the hydroxyl group is blocked, did not show affinity for the binding protein. The results indicate that the hydroxyl group of 4HPR is essential for binding of this type of retinoid to RBP. Thus, our studies suggest that serum transport of 4HPR may be facilitated by RBP. To bind more efficiently to CRBP, CRABP, or RARs/RXRs, the retinoid may require further metabolic change.
IT **33631-48-0**, N-Phenylretinamide **79965-10-9**, N-(4-Methoxyphenyl)retinamide
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(hydroxyphenyl retinamide interactions with retinoid-binding proteins/receptors)
RN 33631-48-0 CAPLUS
CN Retinamide, N-phenyl- (9CI) (CA INDEX NAME)

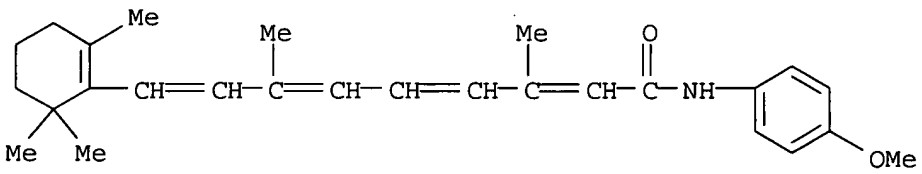


RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



L11 ANSWER 30 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1995:898802 CAPLUS
DN 124:347
TI N-(4-hydroxyphenyl)retinamide (4-HPR)-mediated biological actions involve retinoid receptor-independent pathways in human breast carcinoma
AU Sheikh, M. S.; Shao, Zhi-Ming; Li, Xiao-Su; Ordonez, Jose V.; Conley, Barbara A.; Wu, Suhlan; Dawson, Marcia I.; Han, Qi-Xia; Chao, Wan-ru; et al.
CS Hematology Oncology Division, Univ. of Maryland Cancer Center, Baltimore, MD, 21201, USA
SO Carcinogenesis (1995), 16(10), 2477-86
CODEN: CRNGDP; ISSN: 0143-3334
PB Oxford University Press
DT Journal
LA English
AB Retinoid response pathways involve retinoic acid receptors (RARs) and retinoid X receptors. N-(4-hydroxyphenyl)retinamide (4-HPR), a derivative of all-trans-retinoic acid (RA), is currently in clin. trials as a chemopreventive agent for breast cancer. The issue whether 4-HPR mediates its biol. actions via classical retinoid receptor pathways remains to be investigated. In this study, the authors provide several lines of evidence that 4-HPR mediates its biol. actions via a novel pathway(s) that does not involve the classical retinoid receptor pathways. For example, 4-HPR was more potent than RA as an antiproliferative agent and inhibited growth of otherwise RA-resistant human breast carcinoma cells. Exposure to 4-HPR resulted in the generation of DNA fragmentation with subsequent cell death in both RA-pos. estrogen receptor (ER)-pos. as well as RA-refractory ER-neg. breast carcinoma cell lines. N-(4-methoxyphenyl)retinamide (4-MPR), which is the major 4-HPR metabolite in circulation, was biol. inert in this system. 4-HPR and 4-MPR bound poorly to the RARα, β and γ in vitro and only minimally activated the retinoic acid receptor element (RARE) and retinoid X receptor response elements (RXREs) in human breast carcinoma cells. Neither 4-HPR nor 4-MPR are metabolized to any of the known conventional retinoids. In addition, 4-HPR or 4-MPR transactivation of RAREs or RXREs transfected into MCF-7 and MDA-MB-231 cells was not noted at 48 h. Nevertheless 4-HPR-mediated cell death was observed at 48 h, further suggesting that neither 4-HPR nor 4-MPR are metabolized to retinoids which activate the RAREs or RXREs in breast carcinoma cells. Furthermore, unlike RA, which exhibited anti-AP1 activity, 4-HPR inhibition of growth did not involve anti-AP1 activity. These results suggest that 4-HPR acts by a unique pathway that is not mediated by retinoid receptors.
IT **79965-10-9**
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
((4-hydroxyphenyl)retinamide inhibits human breast carcinoma by retinoid receptor-independent pathways)
RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

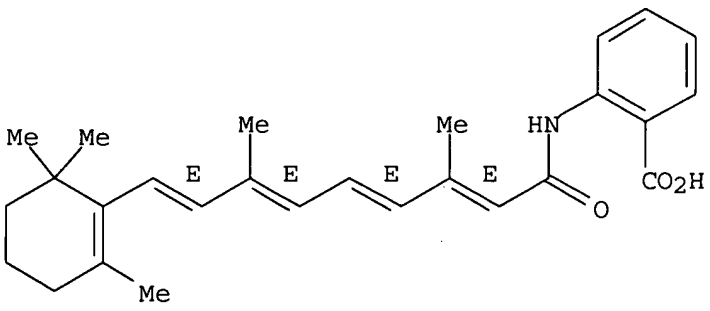


L11 ANSWER 31 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1994:331143 CAPLUS
DN 120:331143
TI Topical pharmaceutical compositions of drugs susceptible to oxidative or hydrolytic degradation
IN Pena, Lorraine E.
PA Upjohn Co., USA
SO PCT Int. Appl., 59 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9407478	A1	19940414	WO 1993-US9292	19931005
W: AT, AU, BB, BG, BR, BY, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, LV, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, US, UZ, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
			US 1992-957346	A2 19921006
AU 9352943	A1	19940426	AU 1993-52943	19931005
			US 1992-957346	A 19921006
			WO 1993-US9292	W 19931005

AB Topical pharmaceutical compns. comprise a drug selected from a group consisting of clindamycin, its salts, retinoids, or mixts. thereof, a pharmaceutically acceptable noncomedogenic oil, and ethanol or isopropanol. The compns. show improved stability and delivery of the drug to the site of action (e.g. hair follicle and sebaceous gland) without excessive greasiness and/or untoward drying effects. The compns. provide an anti-inflammatory effect with reduced irritation when clindamycin is used in combination with retinoids. For example, a topical solution contained clindamycin-HCl 1.0, trans-retinoic acid 0.025, propylene glycol 5.0, caprylic/capric glyceride 40.0, tetrahydroxypropyl ethylenediamine 0.873, and isopropanol to 100%.
IT **74193-16-1**, N-(O-Carboxyphenyl)retinamide
RL: BIOL (Biological study)
(topical composition of, noncomedogenic oil in)
RN 74193-16-1 CAPLUS
CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

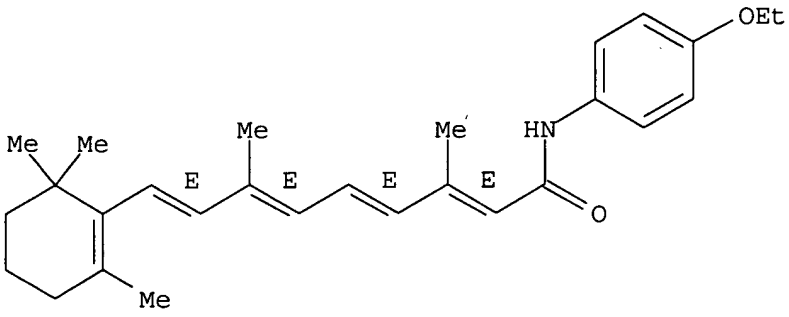
Double bond geometry as shown.



L11 ANSWER 32 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1993:530925 CAPLUS
DN 119:130925

TI Structure-activity relationship studies of retinoid cancer inhibition
AU Jaeger, E. P.; Jurs, P. C.; Stouch, T. R.
CS Sterling Winthrop Pharm. Res. Div., Rensselaer, NY, 12144, USA
SO European Journal of Medicinal Chemistry (1993), 28(4), 275-290
CODEN: EJMCA5; ISSN: 0223-5234
DT Journal
LA English
AB The structure-activity relationships (SAR) of 152 retinoid compds. are described for the in vitro biol. activity that correlates with cancer prophylaxis efficiency. Multivariate anal. with 18 mol. features was used to evaluate an SAR system that correctly classified 94% of the 152 structures. Prospective studies correctly predicted the biol. activities of 17 of 19 new compds. (89%).
IT **53839-73-9**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antitumor activity of, structure in relation to)
RN 53839-73-9 CAPLUS
CN Retinamide, N-(4-ethoxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

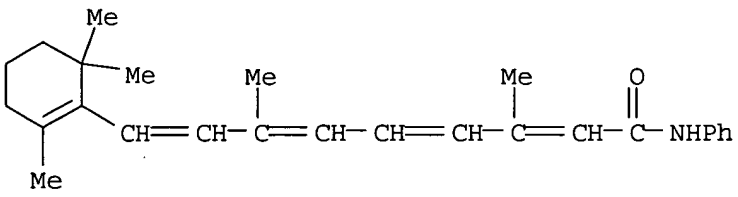


L11 ANSWER 33 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1993:485620 CAPLUS
DN 119:85620
TI A mechanism of retinoid potentiation of murine T-cell responses: Early upregulation of interleukin-2 receptors
AU Jiang, Xiao L.; Everson, Michael P.; Lamon, Eddie W.
CS Dep. Surg., Birmingham Veterans Adm., Birmingham, AL, 35294, USA
SO International Journal of Immunopharmacology (1993), 15(3), 309-17
CODEN: IJIMDS; ISSN: 0192-0561
DT Journal
LA English
AB The capacity of retinoids to amplify the proliferative response of BALB/c lymphocytes to Con A in the presence of exogenous interleukin-2 (IL-2) and the induction of IL-2 receptors (IL-2R) on L3T4+ and Lyt-2+ T-cells was evaluated. Preincubation with Con A for 8 h in the presence of retinoids resulted in a greater than two-fold increase in spleen cell proliferative response to Con A plus rIL-2 over the following 72 h relative to the response of cells preincubated with Con A alone. Peak potentiation of IL-2 responses occurred over a pharmacol. range of retinoic acid (RA) concentration (10-10-10-8 M) in the presence of 20 U/mL rIL-2. This potentiation of the response to IL-2 was likewise observed after 8 h presimulation with Con A with splenic T-cells enriched by passage over nylon wool.

Preincubation of the spleen cells with Con A plus RA without the subsequent addition of IL-2 resulted in a proliferative response that was potentiated nearly to the level of the response produced by subsequent addition of IL-2 to Con A-activated cells. Preincubation of the cells with Con A in the presence of RA produced a true synergy with IL-2; the resulting increase in response was greater than the sum of the increases produced by RA or IL-2 alone. By assessing the proportion of cells that became IL-2R pos. during the early phase of cell activation by Con A and RA, it was determined that this augmentation by RA was apparently associated with increased IL-2R expression among L3T4+ (CD4), Lyt-2+ (CD8) and total T-cells. Indeed, RA-induced proliferative increases were significantly inhibited by addition to culture of anti-IL-2R antibodies. The potentiation of IL-2R expression by RA occurred early during Con A-activation suggesting that the kinetics of IL-2R expression were increased by RA. Indeed, near-maximal IL-2R expression was observed after a 12 h stimulation in the presence of RA, whereas maximal IL-2R expression in cultures containing only Con A occurred after 24 h. IL-2R expression was potentiated by RA in both CD4 and CD8 T-cells, but was potentiated more rapidly in the CD4 subpopulation. These data suggest that at least one of the mechanisms underlying retinoid potentiation of T-cell proliferation is the retinoid-induced increase in the rate of IL-2R expression.

IT **33631-48-0**
RL: BIOL (Biological study)
(T-cell proliferation potentiation by, early upregulation of interleukin-2 receptors in)

RN 33631-48-0 CAPLUS
CN Retinamide, N-phenyl- (9CI) (CA INDEX NAME)



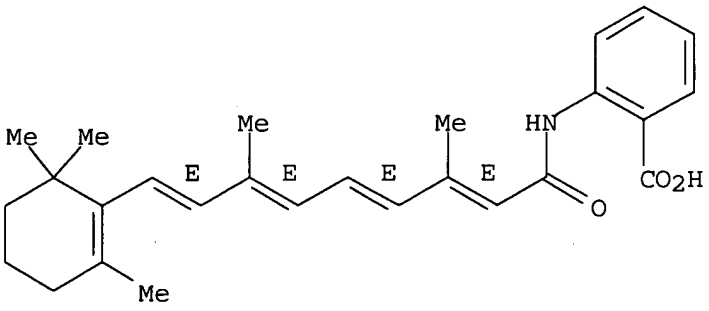
L11 ANSWER 34 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1992:604652 CAPLUS
DN 117:204652
TI Characteristics of retinoid-induced adhesion in a cultured human oral carcinoma cell line
AU Sarkar, R.; Das, S. K.
CS Dep. Tissue Culture, Chittaranjan Natl. Cancer Inst., Calcutta, 700 026, India
SO Neoplasma (1992), 39(2), 87-91
CODEN: NEOLA4; ISSN: 0028-2685
DT Journal
LA English
AB Cultured epidermoid oral carcinoma cells KB were easily detached from plastic surface in an ethylene diamine tetra acetic acid (EDTA) mediated detachment assay. Treatment of KB cells with retinol (vitamin A) or retinoic acid (RA) induced growth inhibition and caused reversible enhanced adhesion to the substratum in a similar fashion as well. Different synthetic retinoids were tested for their ability to induce growth inhibition and adhesion. A relationship between structure and activity of retinoids was found to exist. Possible mechanisms of

retinoid-induced enhanced adhesion are discussed.

IT **74193-16-1**, N-(O-Carboxyphenyl) retinamide
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antitumor activity of, cell adhesion modulation in relation to)

RN 74193-16-1 CAPLUS
CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



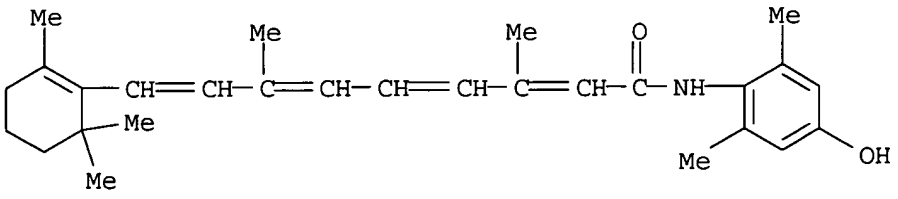
L11 ANSWER 35 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1992:440436 CAPLUS
DN 117:40436
TI Preparation of 4-[(thio)acylamino]phenols as 5-lipoxygenase inhibitors
IN Inoe, Hirozumi; Kurokuzuhara, Hiroshi; Ikezawa, Ichiro; Uchida, Hoten; Kikuchi, Matsuo; Sugano, Kenkichi
PA Tanabe Seiyaku K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04054119	A2	19920221	JP 1990-162364	19900620
				JP 1990-162364	19900620

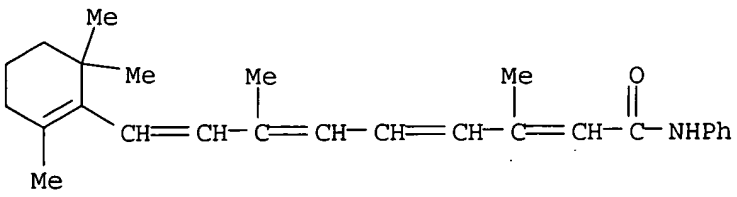
OS MARPAT 117:40436
AB 5-Lipoxygenase (I) inhibitors contain II [R1, R2 = lower alkyl, lower alkanoyl, cycloalkyl; R3, R4 = H, lower alkyl; R5 = lower alkoxyalkyl, Me substituted with C3-9 (cyano)alkyl YR6; R6 = H, OH, (un)substituted cycloalkenyl, O-containing heterocyclyloxy,; Y = C4-14 hydrocarbylene containing
1-4 double or triple bond(s); A = O, S] or their pharmacol. acceptable salts as active ingredients. II are useful as allergy and/or inflammation inhibitors, especially as prophylactic and therapeutic agents for asthma, allergic rhinitis, urticaria, psoriasis, gout, arthritis, nephritis, and hepatitis. 2,6,4-Me2(H2N)C6H2OH (1.5 g) in AcOEt was treated with an aqueous NaHCO3 solution and 1.32 g Me2CHCH2COCl under vigorous stirring at 0° for 10 min to give 1.81 g 3,5,4-Me2(HO)C6H2NHCOCH2CHMe2(III). IC50 value of III for I was 0.99 μM.

IT **142341-73-9P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of, as lipoxygenase inhibitor)

RN 142341-73-9 CAPLUS
CN Retinamide, N-(4-hydroxy-2,6-dimethylphenyl)- (9CI) (CA INDEX NAME)

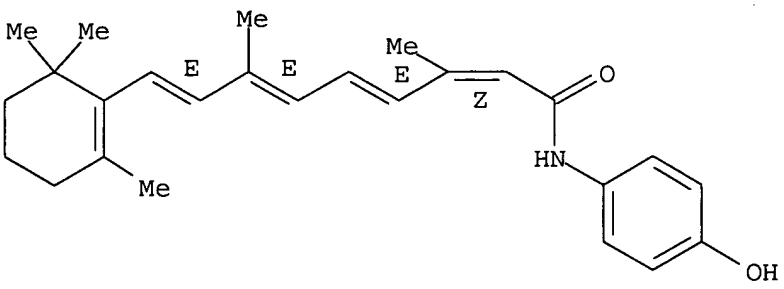


L11 ANSWER 36 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1992:187628 CAPLUS
DN 116:187628
TI Potentiation of IL-2-induced T-cell proliferation by retinoids
AU Jiang, Xiao L.; Dillehay, Dirck L.; Everson, Michael P.; Tilden, Arabella B.; Lamon, Eddie W.
CS Dep. Surg., Birmingham Veterans Adm. Med. Cent., Birmingham, AL, 35294, USA
SO International Journal of Immunopharmacology (1992), 14(2), 195-204
CODEN: IJIMDS; ISSN: 0192-0561
DT Journal
LA English
AB The authors evaluated the capacity of retinoids to potentiate proliferative responses of murine T-cells to recombinant human interleukin 2 (rIL-2). Con A prestimulated spleen cells responded in a dose-dependent manner to added rIL-2. All-trans-retinoic acid (RA) at 10-8 M potentiated the proliferative response by 5-fold at saturating levels of IL-2. In similar expts., two closely related retinamides, all-trans-(phenyl)retinamide (PR) and N-(4-hydroxyphenyl)retinamide (4-HPR), also potentiated murine splenocyte rIL-2 responses. Potentiation of IL-2-induced proliferation was dose-responsive to the concentration of added retinoid with peak potentiation occurring at 10-10-10-8 M in the presence of 10 U/mL rIL-2. Potentiation was observed at retinoid concns. as low as 10-14 M. Fluorescence flow cytometry of the responding cells revealed that among L3T4+, Lyt-2+ or total T-cells, at 72 h following Con A stimulation, essentially all of the cells expressed IL-2 receptors (IL-2R). This apparently represents near maximum IL-2R expression and treatment of the cells with retinoids did not increase IL-2R expression at that time point. The potentiation of IL-2 responses by retinoids was also observed with IL-2-dependent HT-2 cells, 98% of which were IL-2R pos. HT-2 proliferative responses to rIL-2 were potentiated as much as 4-fold by 10-10 M RA. HT-2 proliferative responses to rIL-2 were potentiated by all three retinoids dose dependently. Potentiation was observed with as little as 10-14 M retinoid. Retinoids in the absence of IL-2 induced no proliferative responses. These data suggest that retinoids can augment the capacity of IL-2 to induce T-cell proliferation using Con A-activated murine splenic T-cell blasts and a long-term-cultured T-cell line.
IT **33631-48-0**
RL: BIOL (Biological study)
(potentiation of interleukin-2 induced T-cell proliferation by)
RN 33631-48-0 CAPLUS
CN Retinamide, N-phenyl- (9CI) (CA INDEX NAME)



L11 ANSWER 37 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1991:114596 CAPLUS
DN 114:114596
TI Computer Automated Structure Evaluation (CASE) of the teratogenicity of retinoids with the aid of a novel geometry index
AU Klopman, Gilles; Dimayuga, Mario L.
CS Dep. Chem., Case West. Reserve Univ., Cleveland, OH, 44106, USA
SO Journal of Computer-Aided Molecular Design (1990), 4(2), 117-30
CODEN: JCADEQ; ISSN: 0920-654X
DT Journal
LA English
AB The CAS (Computer Automated Structure Evaluation) program, with the aid of a geometry index for discriminating cis and trans isomers, has been used to study a set of retinoids tested for teratogenicity in hamsters. CASE identified 8 fragments, the most important representing the nonpolar terminus of a retinoid with an addnl. ring system which introduces some rigidity in the isoprenoid side chain. The geometry index helped to identify relevant fragments with an all-trans configuration and to distinguish them from irrelevant fragments with other configurations.
IT **75686-07-6**, 13-cis-N-(4-Hydroxyphenyl)retinamide
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(teratogenicity of, as retinoid, computer automated evaluation using geometry index in prediction of, structure in relation to)
RN 75686-07-6 CAPLUS
CN Retinamide, N-(4-hydroxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

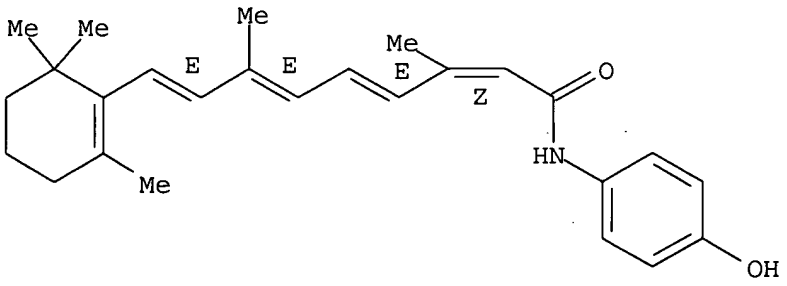
Double bond geometry as shown.



L11 ANSWER 38 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1991:37725 CAPLUS
DN 114:37725
TI Synthetic and naturally occurring retinoids inhibit third- to fourth-stage larval development by Onchocerca lienalis in vitro
AU Lok, J. B.; Morris, R. A.; Sani, B. P.; Shealy, Y. F.; Donnelly, J. J.
CS Sch. Vet. Med., Univ. Pennsylvania, Philadelphia, PA, 19104, USA
SO Tropical Medicine and Parasitology (1990), 41(2), 169-73
CODEN: TMPAEY; ISSN: 0177-2392

DT Journal
LA English
AB A series of synthetic retinoids was screened for the ability to inhibit the third-to fourth-stage larval molt by O. lienalis in vitro. Of the 14 retinoids tested, 8 gave significant inhibition of the molt at a concentration of ≤30.6 μM. Probit anal. of dose-response data collected for these active compds. indicated values for ED50 in the range of 3.7-17.1 μM. In general, the most active of these N-substituted retinamides were those with small alkyl or monohydroxy alkyl substituents. The most active of these was all-trans-N-(2-hydroxyethyl)retinamide with an ED50 of 3.7 μM. Both the all-trans and 13-cis isomers of the alkyl substituted derivs. were active, the all-trans-N-hydroxyethyl derivative being approx. 5 times as active as the corresponding 13-cis isomer. The N-2,3 dihydroxypropyl derivative, two derivs. with aromatic side chains and three N-(retinoyl)amino acids were inactive by the criteria set in the initial screening. There was no strict correlation between growth regulating activity against O. lienalis and binding affinity for a retinol-binding protein from Onchocerca gibsoni.
IT **75686-07-6**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(development of larvae of Onchocerca lienalis response to)
RN 75686-07-6 CAPLUS
CN Retinamide, N-(4-hydroxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



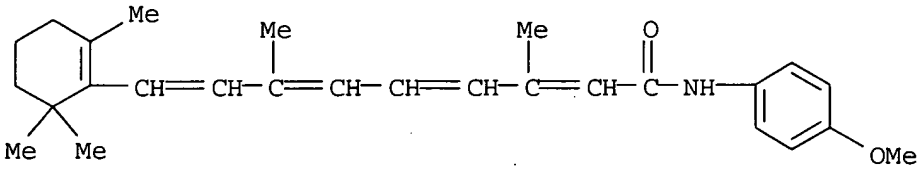
L11 ANSWER 39 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1990:470837 CAPLUS
DN 113:70837
TI Alteration of retinol-binding-protein concentrations by the synthetic retinoid fenretinide in healthy human subjects
AU Dimitrov, Nikolay V.; Meyer, Cheryl J.; Perloff, Marjorie; Ruppenthal, Mary M.; Phillipich, Mary J.; Gilliland, Dennis; Malone, Winfred; Minn, Fredrick L.
CS Dep. Med., Michigan State Univ., East Lansing, MI, 48824, USA
SO American Journal of Clinical Nutrition (1990), 51(6), 1082-7
CODEN: AJCNAC; ISSN: 0002-9165
DT Journal
LA English
AB Normal subjects received fenretinide (HPR), 200 mg/day, on 3 schedules. Schedule 1 was treatment for 28 days. Schedule 2 consisted of 14 days of treatment, 3 days of hiatus, and a second drug course of 14 days, 10,000 IU vitamin A was administered during the 3-day hiatus. Schedule 3 was 14 days of treatment followed by a rest period of 7 days and then 14 days of treatment. Increase in plasma HPR was accompanied by an even higher

increase in the metabolite N-(4-methoxyphenyl)-all-trans-retinamide (MPR). The administration of HPR was associated with a reduction in retinol-binding protein (RBP), which returned to pretreatment values after the drug treatment was discontinued. Reduction of plasma retinol was also observed Use of interrupted schedules with resting periods of 3 and 7 days changed HPR, MPR, and RBP concns. in plasma. Addition of vitamin A did not affect the pattern of measured variables in blood plasma.

IT **79965-10-9**, N-(4-Methoxyphenyl)-all-trans-retinamide
RL: BIOL (Biological study)
(of blood plasma, as fenretinide metabolite, in human)

RN 79965-10-9 CAPLUS

CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



L11 ANSWER 40 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1990:210530 CAPLUS

DN 112:210530

TI Computer-automated structure evaluation (CASE) of retinoids in teratogenesis bioassays

AU Frierson, Manton R.; Mielach, Frances A.; Kochhar, D. M.

CS Biofor, Inc., Waverly, PA, 18471, USA

SO Fundamental and Applied Toxicology (1990), 14(2), 408-28
CODEN: FAATDF; ISSN: 0272-0590

DT Journal

LA English

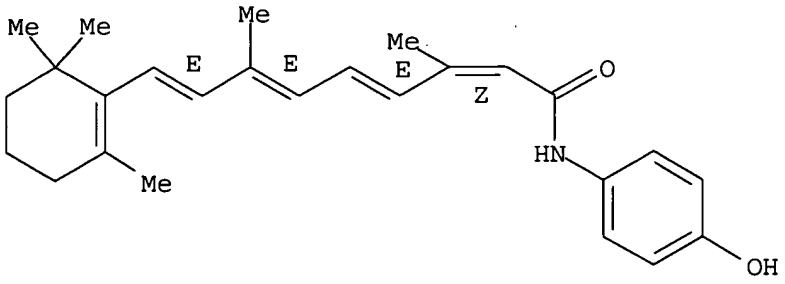
AB The potential usefulness of the retinoids, a large group of synthetic compds. chemical and structurally related to vitamin A, in the treatment of severe dermatol. diseases and in the prophylaxis and therapy against cancer is severely limited because of their potential teratogenicity. CASE anal. of published retinoid data from the hamster teratogenicity assay and the limb bud "spot" culture system has targeted the hydrophobic region of the retinoids as having the greatest effect on the range of potencies studied. In addition, log p's (as calculated by the CASE program) below a certain value appear to identify nonteratogenic retinoids in the hamster assay system.

IT **75686-07-6**, WH 13
RL: BIOL (Biological study)
(teratogenesis of, computer-automated structure evaluation of)

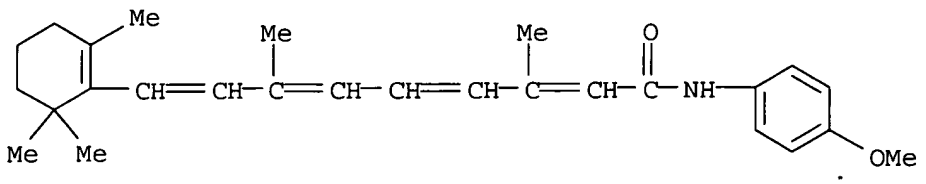
RN 75686-07-6 CAPLUS

CN Retinamide, N-(4-hydroxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

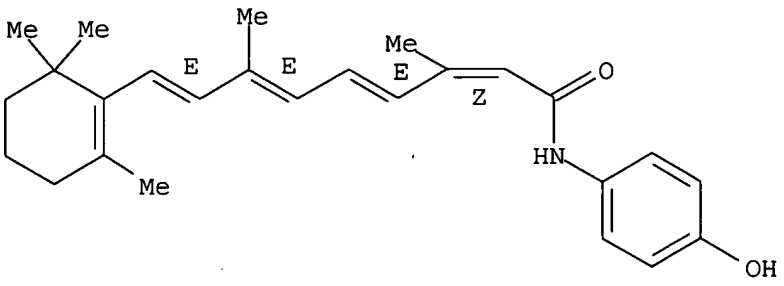


L11 ANSWER 41 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1990:210511 CAPLUS
DN 112:210511
TI Distribution and metabolism of the retinoid, N-(4-methoxyphenyl)-all-trans-retinamide, the major metabolite of N-(4-hydroxyphenyl)-all-trans-retinamide, in female mice
AU Hultin, Theresa A.; Filla, Mark S.; McCormick, David L.
CS Life Sci. Res., IIT Res. Inst., Chicago, IL, 60616, USA
SO Drug Metabolism and Disposition (1990), 18(2), 175-9
CODEN: DMDSAI; ISSN: 0090-9556
DT Journal
LA English
AB The metabolism and disposition of N-(4-methoxyphenyl)-all-trans-retinamide (MPR) (I), the major metabolite of N-(4-hydroxyphenyl)-all-trans-retinamide (4-HPR), were investigated in female B6D2F1 (BDF) mice. Following a single oral dose of 10 mg/kg, MPR distributed to the serum, liver, mammary gland, urinary bladder, and skin. The highest levels of MPR were detected in the liver and mammary gland, and the largest values for AUC were in the mammary gland followed by the skin and liver. The t1/2 for MPR was 5.1 h in liver, 5.6 h in serum, 16.7 h in urinary bladder, 23.1 h in skin, and 26.6 h in mammary gland. MPR and five metabolites were detected; levels varied between tissues. One metabolite was 4-HPR; the other four, which eluted at 7, 12, 13, and 18 min, remain unidentified. The major metabolite of MPR was the 18-min metabolite and comprised 17% of total retinoid in skin and 14% in mammary gland. 4-HPR was only a minor metabolite of MPR; 4-HPR was not detectable in serum or urinary bladder and accounted for less than 4% of total retinoid in the other tissues. In mice dosed with 10 mg/kg 4-HPR, the parent compound, MPR, a putative 4-HPR ester, and three of the MPR metabolites (7, 13, and 18 min) were found. These data suggest that the interconversion of 4-HPR and MPR greatly favors formation of MPR. Several common metabolites are formed during the metabolism of 4-HPR and MPR in vivo; the 12- and 18-min metabolites are direct products of MPR, the 4-HPR ester is formed directly from 4-HPR, and it appears that the 7- and 13-min metabolites can be formed from either 4-HPR or MPR.
IT **79965-10-9**, N-(4-Methoxyphenyl)-all-trans-retinamide
RL: FORM (Formation, nonpreparative)
(formation of, as (methoxyphenyl)retinamide metabolite)
RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

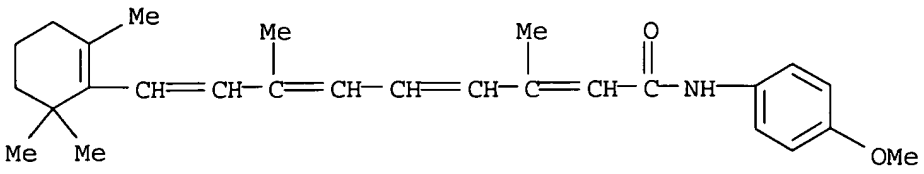


L11 ANSWER 42 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1990:191437 CAPLUS
DN 112:191437
TI Antifilarial activities of synthetic and natural retinoids in vitro
AU Zahner, H.; Sani, B. P.; Shealy, Y. F.; Nitschmann, A.
CS Inst. Parasitol., Justus Liebig Univ., Giessen, D-6300, Fed. Rep. Ger.
SO Tropical Medicine and Parasitology (1989), 40(3), 322-6
CODEN: TMPAEY; ISSN: 0177-2392
DT Journal
LA English
AB Fourteen synthetic retinoids with known and different binding affinities to retinol-binding proteins of Dirofilaria immitis, retinol, and retinoic acid were tested in vitro against female Litomosoides carinii (drug levels 20, 10, 1 nM/mL) and against microfilariae of L. carinii, Brugia malayi, B. pahangi, and Acanthocheilonema viteae (drug levels 100, 20, 10, 1 nM/mL). All compds. including retinol and retinoic acid had at least some effects on the filarial parasites. Except for 3 synthetic retinoids, continuous exposure of adult L. carinii to the drugs reduced the motility of the worms completely or remarkably by day 7 of incubation in a dose- and time-dependent fashion. Also, the release of microfilariae was completely or markedly suppressed in a dose- and time-dependent manner by 20 and 10 nM/mL of all except 4 of the retinoids. Short term exposure to the drugs (up to 20 nM/mL) for 4 h followed by subsequent incubation in drug-free medium was ineffective except for one synthetic retinoid (13-cis-N-(2-hydroxyethyl)retinamide:13-cis-Her). Effects on microfilariae were also dose- and time-dependent. All compds. affected markedly the motility of L. carinii microfilariae within 20 h at dose levels of 1 nM/mL and above. Microfilariae of B. malayi, B. pahangi and especially of A. viteae were generally less sensitive. Eight of the synthetic retinoids, but not retinol and retinoic acid, were effective (10 nM/mL). There were generally no correlations between the various effects of individual compds.; i.e., activities varied within one species depending on the parameters used and depending on the parasite species. Only 3 synthetic retinoids were broadly effective and caused remarkable effects with respect to all parameters. Furthermore, there was no correlation between antifilarial effects of the retinoids and their binding affinity to D. immitis retinol-binding protein.
IT **75686-07-6**, 13-cis-N-(4-Hydroxyphenyl)retinamide
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(antifilarial activity of)
RN 75686-07-6 CAPLUS
CN Retinamide, N-(4-hydroxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

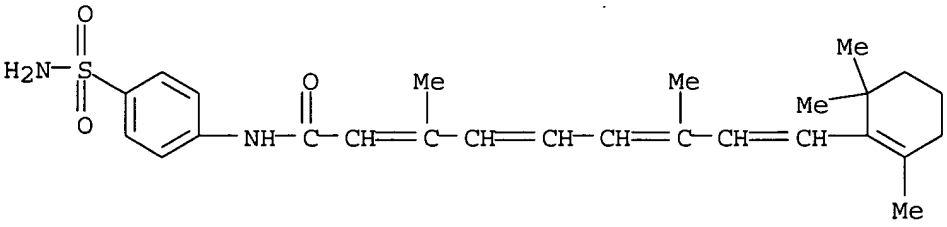
Double bond geometry as shown.



L11 ANSWER 43 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1989:624894 CAPLUS
DN 111:224894
TI Suppression of rat mammary cancer development by N-(4-hydroxyphenyl)retinamide (4-HPR) following surgical removal of first palpable tumor
AU Moon, Richard C.; Pritchard, J. Frederick; Mehta, Rajendra G.; Nomides, Charles T.; Thomas, Cathy F.; Dinger, Nancy M.
CS Res. Inst., IIT, Chicago, IL, 60616, USA
SO Carcinogenesis (1989), 10(9), 1645-9
CODEN: CRNGDP; ISSN: 0143-3334
DT Journal
LA English
AB A study was conducted to determine whether 4-HPR affects the development of new mammary tumors subsequent to the surgical removal of the first palpable tumor. Female rats were injected i.v. with 35 mg N-methyl-N-nitrosourea (MNU)/kg at 50 days of age. The first palpable tumor was removed when 0.3-0.5 cm in diameter, and the animals placed on diets containing either 1, 2, or 3 mmol 4-HPR/kg diet. Some animals were killed at the time of surgical removal of the first tumor and whole mounts of the mammary glands were prepared Moreover, five animals per group were bled at 1, 3, and 6 mo after commencing the 4-HPR diet and the levels of 4-HPR and N-(4-methoxyphenyl)retinamide (4-MPR) were determined 4-HPR decreased tumor multiplicity in a dose-related manner, but cancer formation was only inhibited at the 2 and 3 mmol levels of 4-HPR. Whole mounts of mammary glands of rats treated with MNU demonstrated the presence of nonpalpable microscopic tumors in addition to the palpable tumor which was excised. Plasma levels of 4-HPR and 4-MPR increased with increasing dietary dose levels, but a linear relationship was not evident. However, the increase in plasma 4-HPR was directly correlated with an increased survival of the tumor-bearing animals. The results indicate that 4-HPR effectively inhibits the appearance of subsequent mammary tumors following excision of the first palpable tumor, and thus may be suitable for use as a chemopreventive agent in patients at increased risk for breast disease.
IT **79965-10-9**
RL: BIOL (Biological study)
(as (hydroxyphenyl)retinamide metabolite, of blood plasma, mammary gland neoplasm development in relation to)
RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



L11 ANSWER 44 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1989:546388 CAPLUS
DN 111:146388
TI Induction of differentiation of human promyelocytic leukemia (HL-60) cells by a new retinoid R 81001
AU Jiao Lu; Han, Rui
CS Inst. Mater. Med., Beijing, Peop. Rep. China
SO Zhongguo Yixue Kexueyuan Xuebao (1989), 11(2), 102-6
CODEN: CIHPDR; ISSN: 1000-503X
DT Journal
LA Chinese
AB The retinoid R 81001 induced the differentiation of human promyelocytic leukemia HL-60 cells along the myloid pathway, as determined by their biol., morphol., and biochem. characteristics.
IT **93449-27-5**, R 81001
RL: BIOL (Biological study)
(promyelocytic leukemia differentiation induction by, of humans)
RN 93449-27-5 CAPLUS
CN Retinamide, N-[4-(aminosulfonyl)phenyl]- (9CI) (CA INDEX NAME)



L11 ANSWER 45 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1989:540189 CAPLUS
DN 111:140189
TI Treatment of alopecia and stimulation of hair growth with composition containing retipoid and pyrimidine derivatives
IN Grollier, Jean Francois
PA Oreal S. A., Fr.
SO Ger. Offen., 18 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
PI	DE 3827467	A1	19890223	DE 1988-3827467		19880812
	DE 3827467	C2	19980716			
				LU 1987-86969	A	19870812
	CH 676422	A	19910131	CH 1988-2946		19880803
				LU 1987-86969	A	19870812

NL 8801963	A	19890301	NL 1988-1963		19880805
			LU 1987-86969	A	19870812
DK 8804472	A	19890213	DK 1988-4472		19880810
			LU 1987-86969	A	19870812
FI 8803719	A	19890213	FI 1988-3719		19880810
			LU 1987-86969	A	19870812
NO 8803542	A	19890213	NO 1988-3542		19880810
			LU 1987-86969	A	19870812
AT 400516	B	19960125	AT 1988-2011		19880810
			LU 1987-86969	A	19870812
SE 8802869	A	19890213	SE 1988-2869		19880811
SE 503912	C2	19960930			
			LU 1987-86969	A	19870812
AU 8820622	A1	19890216	AU 1988-20622		19880811
AU 626068	B2	19920723			
			LU 1987-86969	A	19870812
FR 2619309	A1	19890217	FR 1988-10845		19880811
FR 2619309	B1	19911031			
			LU 1987-86969	A	19870812
JP 01156921	A2	19890620	JP 1988-199028		19880811
JP 2749591	B2	19980513			
			LU 1987-86969	A	19870812
ES 2013796	A6	19900601	ES 1988-2521		19880811
			LU 1987-86969	A	19870812
GB 2208601	A1	19890412	GB 1988-19223		19880812
GB 2208601	B2	19911211			
			LU 1987-86969	A	19870812
BE 1001056	A3	19890620	BE 1988-924		19880812
			LU 1987-86969	A	19870812

OS MARPAT 111:140189

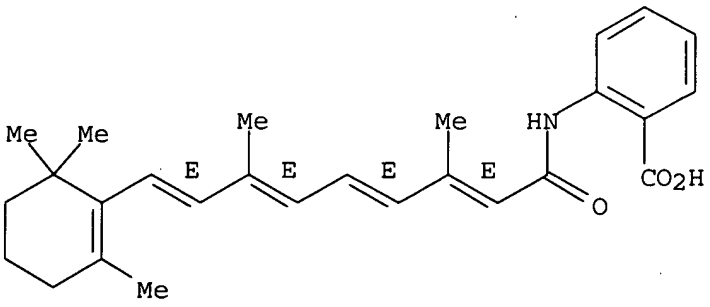
AB Hair loss is prevented and hair growth is stimulated by topical application of a retinoid-containing composition, followed by topical application of a composition containing a pyrimidine derivative I (R, R1 = H, alkyl, alkenyl, alkylaryl, cycloalkyl; NRR1 = heterocyclyl; R2 = H, alkyl, alkenyl, cycloalkyl, etc.) or I salt. Composition A comprised retinoic acid 0.031, butylhydroxytoluene 0.001, EtOH 95 and propylene glycol to 100 g. Composition B comprised minoxidil 0.80, propylene glycol 20, EtOH 50 and water to 100 g. Composition A was applied in the evening and composition B in the morning.

IT **74193-16-1**
RL: BIOL (Biological study)
(hair loss treatment with minoxidil and)

RN 74193-16-1 CAPLUS

CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

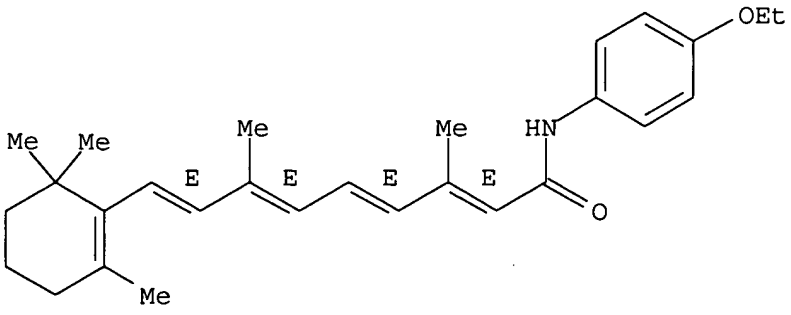


L11 ANSWER 46 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1989:135536 CAPLUS
DN 110:135536
TI Process for preparing retinoyl chlorides
IN Maryanoff, Cynthia Anne
PA McNeilab, Inc., USA
SO Eur. Pat. Appl., 7 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
PI	EP 261911	A2	19880330	EP 1987-308333		19870921
	EP 261911	A3	19880601			
	EP 261911	B1	19910821			
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE					
				US 1986-909794	A	19860922
	US 4743400	A	19880510	US 1986-909794		19860922
	JP 63119456	A2	19880524	JP 1987-235043		19870921
	JP 07107044	B4	19951115			
				US 1986-909794	A	19860922
	HU 45009	A2	19880530	HU 1987-4254		19870921
	HU 201523	B	19901128			
				US 1986-909794	A	19860922
	CA 1278310	A1	19901227	CA 1987-547388		19870921
				US 1986-909794	A	19860922
	AT 66471	E	19910915	AT 1987-308333		19870921
				US 1986-909794	A	19860922
				EP 1987-308333	A	19870921

OS CASREACT 110:135536
AB (all-trans)-Retinoyl chloride (I; R = Cl) (II) is prepared by chlorination of (all-trans)-retinoic acid (II; R = OH) (III) with Me2N+:CHCl Cl- (IV) under mild conditions. Degassed dry DMF was treated with oxalyl chloride in Et2O to give a white precipitate IV, which was stirred with a slurry of acid III in DMF at room temperature to give II, which was treated with aniline derivs. to give the corresponding retinamides.
IT **53839-73-9P 75686-07-6P 79965-10-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 53839-73-9 CAPLUS
CN Retinamide, N-(4-ethoxyphenyl)- (9CI) (CA INDEX NAME)

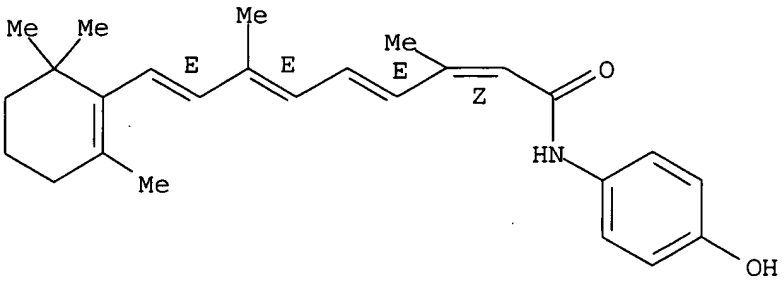
Double bond geometry as shown.



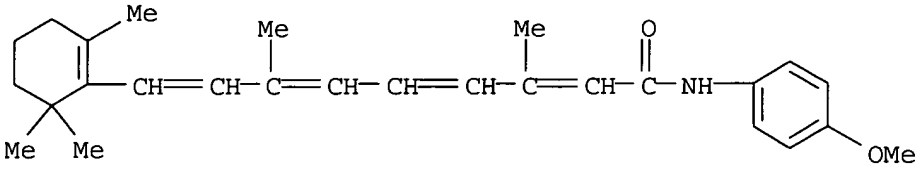
RN 75686-07-6 CAPLUS

CN Retinamide, N-(4-hydroxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

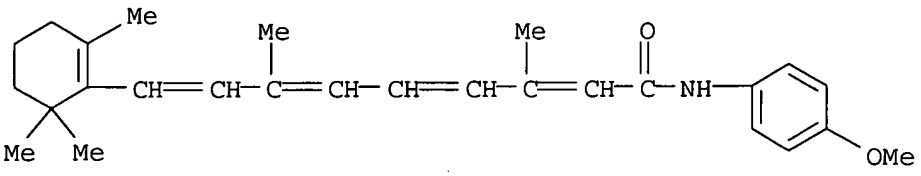


L11 ANSWER 47 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1989:68987 CAPLUS
DN 110:68987
TI Effects of pretreatment with the retinoid N-(4-hydroxyphenyl)-all-trans-retinamide and phenobarbital on the disposition and metabolism of N-(4-hydroxyphenyl)-all-trans-retinamide in mice
AU Hultin, Theresa A.; McCormick, David L.; May, Cynthia M.; Moon, Richard C.
CS Life Sci. Res., IIT Res. Inst., Chicago, IL, 60616, USA
SO Drug Metabolism and Disposition (1988), 16(6), 783-8
CODEN: DMDSAI; ISSN: 0090-9556
DT Journal
LA English
AB The effects of pretreatment with N-(4-hydroxyphenyl)-all-trans-retinamide (4-HPR) and phenobarbital (PB) on the distribution and metabolism of 4-HPR, and on the levels of hepatic cytochromes, were investigated in female BDF mice. Pretreatment of mice for 3 days with 10 mg 4-HPR/kg had no effect on the disposition of 4-HPR in the serum, liver, mammary gland, or urinary bladder. 4-HPR pretreatment also had no effect on the pharmacokinetics of any of its metabolites in the liver, or on the levels of hepatic cytochromes P 450 or b5. By contrast, pretreatment of mice for 3 days with 80 mg PB/kg had an effect on the disposition of 4-HPR in all the tissues examined; the areas under the concentration-time curves for PB-pretreated mice were half those for vehicle-pretreated mice. PB pretreatment also reduced the levels of 4 metabolites of 4-HPR in the liver and increased the levels of hepatic cytochromes P 450 and b5. Thus, prior or concomitant administration of drugs that induce the mixed function oxidase system could result in changes in retinoid disposition and metabolism; such changes may alter retinoic chemopreventive activity.
IT **79965-10-9**, N-(4-Methoxyphenyl)-all-trans-retinamide
RL: FORM (Formation, nonpreparative)

(formation of, as hydroxyphenylretinamide metabolite, retinoid and phenobarbital effect on)

RN 79965-10-9 CAPLUS

CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



L11 ANSWER 48 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1989:251 CAPLUS

DN 110:251

TI Metabolism of the chemopreventive retinoid N-(4-hydroxyphenyl)retinamide by mammary gland in organ culture

AU Mehta, Rajendra G.; Hultin, Theresa A.; Moon, Richard C.

CS Res. Inst., IIT, Chicago, IL, 60616, USA

SO Biochemical Journal (1988), 256(2), 579-84
CODEN: BIJOAK; ISSN: 0306-3275

DT Journal

LA English

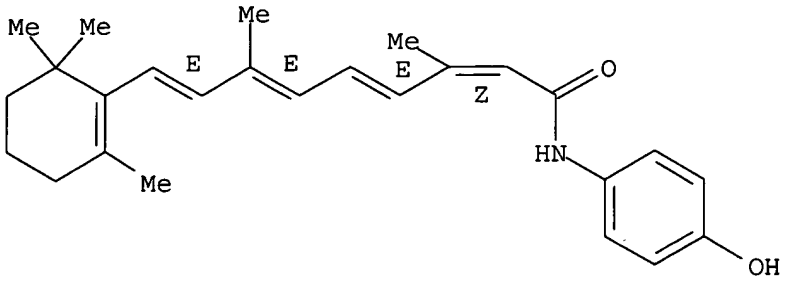
AB Mammary glands excised from BALB/c mice were incubated with N-(4-hydroxyphenyl)retinamide (4-HPR) in the presence of insulin, prolactin, and steroid hormones for 6 days. The glands were extracted with chloroform/methanol (2:1), and the metabolites were separated on a reversed-phase h.p.l.c. column. Three metabolites were separated in addition to 4-HPR; one of the metabolites, M2, was co-eluted with 13-cis-4-HPR, M3 was co-eluted with N-(4-methoxyphenyl)retinamide (4-MPR) and M1 remains unidentified. There appeared to be some hormonal regulation in the distribution of metabolites in the glands. Increased levels of 4-MPR and M1 were observed in insulin-plus-prolactin-treated glands as compared with the glands incubated with steroid hormones. Furthermore, it was observed that M1 isolated from the livers of 4-HPR-treated rats competed for the cellular retinoic acid-binding protein (CRABP) sites; however 4-HPR did not bind to CRABP. These results indicate that mouse mammary gland can metabolize 4-HPR and that the metabolites which compete for CRABP sites may have physiol. significance in retinoid inhibition of mammary carcinogenesis.

IT **75686-07-6**, 13-cis-N-(4-Hydroxyphenyl)retinamide
79965-10-9, N-(4-Methoxyphenyl)retinamide
RL: BIOL (Biological study)
(formation and binding to cellular retinoic acid-binding protein of, as hydroxyphenylretinamide metabolite)

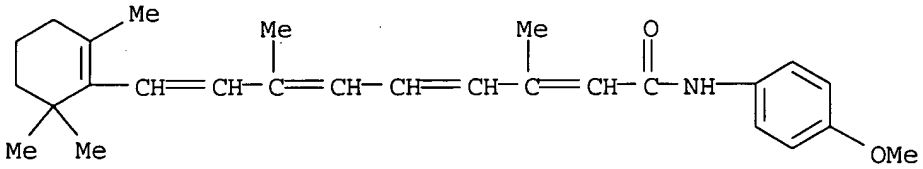
RN 75686-07-6 CAPLUS

CN Retinamide, N-(4-hydroxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

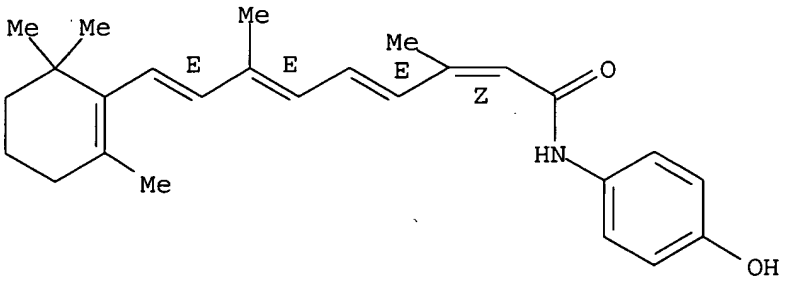


RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

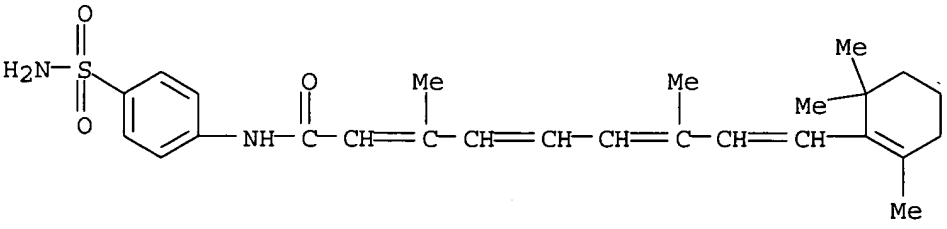


L11 ANSWER 49 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1988:466268 CAPLUS
DN 109:66268
TI Enzymic hydrolysis of retinamides
AU Shih, Tzu Wen; Shealy, Y. Fulmer; Hill, Donald L.
CS Biochem. Res. Dep., Southern Res. Inst., Birmingham, AL, 35255-5305, USA
SO Drug Metabolism and Disposition (1988), 16(3), 337-40
CODEN: DMDSAI; ISSN: 0090-9556
DT Journal
LA English
AB Enzymic activity present in liver microsomes from rats slowly hydrolyzed N-(4-hydroxyphenyl)retinamide (4HPR). A product of the reaction was all-trans-retinoic acid. The reaction, which had a pH optimum >8.6, was stimulated by divalent cations, particularly Mn2+. Enzyme activity was highest in liver microsomes but was also present in kidney microsomes, liver cytoplasm, and spleen cytoplasm. Of 10 possible substrates tested, the 13-cis- and all-trans-forms of N-ethylretinamide were most active. The all-trans-form of 4HPR was much more active than the 13-cis-form. Neither 13-cis- nor all-trans-retinoyl leucine was a substrate. Because no detectable [14C]all-trans-retinoic acid could be found in the livers of rats after doses of [14C]4HPR, this enzyme is probably not extensively active in intact animals.
IT **75686-07-6**
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis of, by liver microsomes)
RN 75686-07-6 CAPLUS
CN Retinamide, N-(4-hydroxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

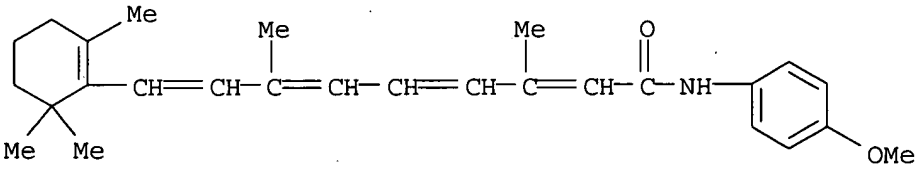


L11 ANSWER 50 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1988:447939 CAPLUS
DN 109:47939
TI The effect of retinoids on colony formation by malignant cells
AU Xu, C. X.; Du, C. Z.; Han, R.
CS Inst. Mater. Med., Chin. Acad. Med. Sci., Beijing, Peop. Rep. China
SO Yaoxue Xuebao (1988), 23(4), 258-61
CODEN: YHHPAL; ISSN: 0513-4870
DT Journal
LA Chinese
AB The effect of several retinoids on colony-forming ability of mouse B16 melanoma cells were compared, using both liquid and soft-agar culture techniques. RI (I; R = Et), RII (I; R = H) and R81001 (N-4-aminosulfonylphenylretinamide) were shown to have no effect on the number of colonies formed by adherent cells in liquid medium at concns. of 3.3 + 10-6 mol/L to 1 + 10-8 mol/L. Only slight inhibition was observed when RA (trans-retinoic acid) 3.3 + 10-6 mol/L was used. In the soft-agar medium, however, all 4 compds. showed inhibitory effect on colony formation even at the lowest concentration (1 + 10-8 mol/L). The activity of these compds. in terms of their inhibitory effect was in order of RA > RII > R81001 > RI. Since the ability of colony formation in soft-agar medium is one of the characteristics present in malignant cells which distinguishes them from normal cells, the soft-agar colony-forming assay of B16 cells may provide a model for screening compds. with potential activity in cancer prevention, and also, in comparing the activity between retinoids and similar agents.
IT **93449-27-5**, R-81001
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(neoplasm-inhibitory activity of, against melanoma)
RN 93449-27-5 CAPLUS
CN Retinamide, N-[4-(aminosulfonyl)phenyl]- (9CI) (CA INDEX NAME)



L11 ANSWER 51 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1988:180100 CAPLUS

DN 108:180100
TI Teratogenicity of N-(4-hydroxyphenyl)-all-trans-retinamide in rats and rabbits
AU Kenel, Michael F.; Krayer, John H.; Merz, Eileen A.; Pritchard, J. Fred
CS Dep. Toxicol., McNeil Pharm., Spring House, PA, USA
SO Teratogenesis, Carcinogenesis, and Mutagenesis (1988), 8(1), 1-11
CODEN: TCMUD8; ISSN: 0270-3211
DT Journal
LA English
AB N-(4-Hydroxyphenyl)-all-trans-retinamide (HPR) has potential efficacy in the treatment of dermatol., arthritic, and neoplastic disorders. Rats and rabbits were treated orally on gestation days 6-15 and 6-18, resp., with 0, 20, 125, or 800 mg/HPR/kg/day. In rat fetuses, low incidences of hydrocephaly (mid- and high-dosage groups) were observed Fetal tissue and maternal plasma concns. of HPR, its major metabolite (N-[4-methoxyphenyl]retinamide [MPR]) and retinol were determined in sep. groups of similarly treated rats 3 h following the last dose on gestation day 15. Fetal tissue concns. of HPR and MPR were approx. one-half maternal plasma concns. A dose-related reduction in maternal plasma and fetal tissue concns. of retinol was also observed In mid- and high-dosage rabbit fetuses, a dose-related increase in the incidence of dome-shaped head was observed Subsequent skeletal evaluation revealed delays in skull bone ossification and a widening of the frontal and frontoparietal sutures. Microphthalmia was also observed in 2 high-dosage fetuses. A dose-dependent reduction in maternal plasma retinol levels was observed in all dosage groups.
IT **79965-10-9**, N-(4-Methoxyphenyl)retinamide
RL: FORM (Formation, nonpreparative)
(formation of, as (hydroxyphenyl)retinamide metabolite, teratogenesis in relation to)
RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



L11 ANSWER 52 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1988:38333 CAPLUS
DN 108:38333
TI N-(Retinoyl) amino acids. Synthesis and chemopreventive activity in vitro
AU Shealy, Y. Fulmer; Frye, Jerry L.; Schiff, Leonard J.
CS South. Res. Inst., Birmingham, AL, 35255, USA
SO Journal of Medicinal Chemistry (1988), 31(1), 190-6
CODEN: JMCMAR; ISSN: 0022-2623
DT Journal
LA English
OS CASREACT 108:38333
AB N-all-trans-Retinoyl amino acids I (X = Leu, DL-Leu, Phe, Ala, DL-Tyr, DL-Glu) were prepared by the acylation of amino acid esters with all-trans-retinoyl chloride (II) followed by hydrolysis with KOH/EtOH. II was prepared by the chlorination of all-trans-retinoic acid with PCl3. N-(13-cis-Retinoyl) amino acids II (X = Leu, Phe, Ala, Gly) were prepared similarly from 13-cis-retinoic acid. In assays of the retinoyl amino acids for reversal of squamous metaplasia in hamster trachea organ

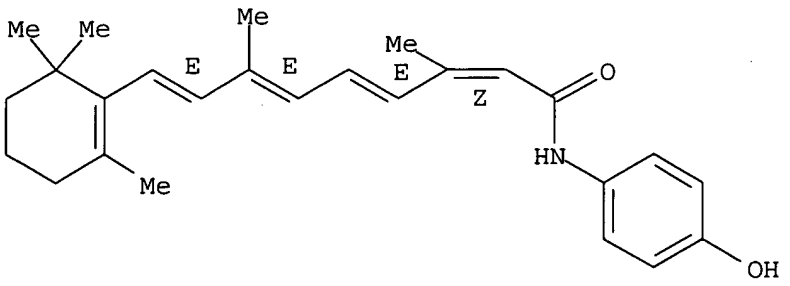
cultures, these compds. were less active than retinoic acid, but the leucine, alanine, and phenylalanine derivs. were similar in activity to several retinamides that suppress bladder carcinogenesis in vivo. Two of the retinoyl amino acids, as well as two simple retinamides, where shown to be moderately cytotoxic to murine leukemia and human epidermoid carcinoma cells in culture.

IT **75686-07-6**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(antitumor activity of)

RN 75686-07-6 CAPLUS

CN Retinamide, N-(4-hydroxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L11 ANSWER 53 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1988:31465 CAPLUS

DN 108:31465

TI Comparative activity of dietary or topical exposure to three retinoids in the promotion of skin tumor induction in mice

AU McCormick, David L.; Bagg, Bryan J.; Hultin, Theresa A.

CS Res. Inst., IIT, Chicago, IL, 60616, USA

SO Cancer Research (1987), 47(22), 5989-93
CODEN: CNREA8; ISSN: 0008-5472

DT Journal

LA English

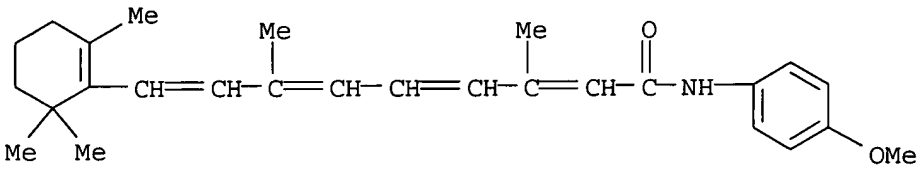
AB The activity of dietary and topical administration of 3 retinoids, all-trans-retinoic acid, 13-cis-retinoic acid, and N-(4-hydroxyphenyl)retinamide (4-HPR), as promoters of skin tumor induction in mice was studied. When administered as dietary supplements at their maximum tolerated dose levels, all 3 retinoids promoted tumorigenesis in mice initiated with a single topical dose of 5 μg 7,12-dimethylbenz(a)anthracene. Maximal promoting activity was observed with dietary 13-cis-retinoic acid; dietary 4-HPR was less active than was either isomer of retinoic acid. When administered via topical application, all-trans- and 13-cis-retinoic acids both promoted skin tumor induction; 4-HPR did not. HPLC anal. of skin samples from mice receiving dietary 4-HPR showed the parent compound and 6 metabolites; these metabolites were not found in the skin of mice receiving topical 4-HPR exposure, although 4-HPR itself was present. Skin tumor promotion can be induced by systemic administration as well as topical application of the all-trans- and 13-cis-retinoic acids. Substitution of a 4-hydroxyphenylamide terminal group results in a reduction in promoting activity. Metabolic activation of 4-HPR is needed for tumor-promoting activity; this metabolism does not occur in the skin following topical application, but is observed following systemic exposure.

IT **79965-10-9**

RL: FORM (Formation, nonpreparative)
(formation of, as hydreoxyphenylretinamide metabolite, neoplasm promotion in relation to)

RN 79965-10-9 CAPLUS

CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



L11 ANSWER 54 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1987:29074 CAPLUS

DN 106:29074

TI Nonenzymatic isomerization of all-trans- and 13-cis-retinoids catalyzed by sulfhydryl groups

AU Shih, T. W.; Shealy, Y. F.; Strother, D. L.; Hill, D. L.

CS Kettering-Meyer Lab., South. Res. Inst., Birmingham, AL, 35255-5305, USA

SO Drug Metabolism and Disposition (1986), 14(6), 698-702
CODEN: DMDSAI; ISSN: 0090-9556

DT Journal

LA English

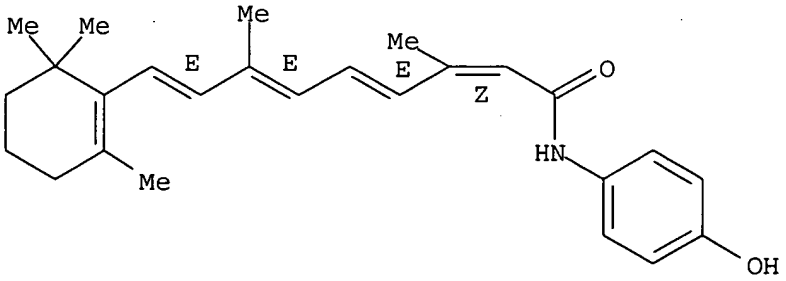
AB Certain thiols catalyzed the isomerization of all-trans-retinoic acid (RA) to 13-cis-retinoic acid (13-cis-RA) and of 13-cis-RA to RA. Reactions approaching equilibrium contained more RA than 13-cis-RA. Small mols. effective as catalysts included glutathione, mercaptoethanol, and L-cysteine Me ester. L-Cysteine was not a catalyst and inhibited the reaction catalyzed by glutathione or mercaptoethanol. Apoferritin (an SH group-containing protein), native microsomes, and, to a lesser extent, boiled microsomes catalyzed the reaction, but their activity was reduced or eliminated by prior incubation with iodoacetate. Other cis and trans isomeric retinoids were also substrates for this reaction; the reactions proceeded more readily with the cis isomers. The thiol-catalyzed isomerization of RA and 13-cis-RA may account for the observations of both cis and trans forms of retinoids in tissues of animals after administration of either.

IT **75686-07-6**, 13-cis-N-(4-Hydroxyphenyl)retinamide
RL: RCT (Reactant); RACT (Reactant or reagent)
(isomerization of, thiol catalysis of)

RN 75686-07-6 CAPLUS

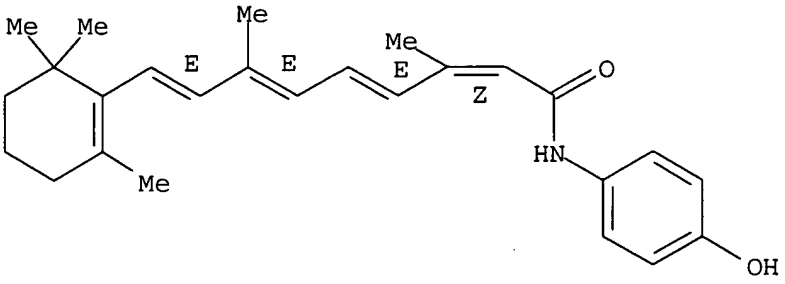
CN Retinamide, N-(4-hydroxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

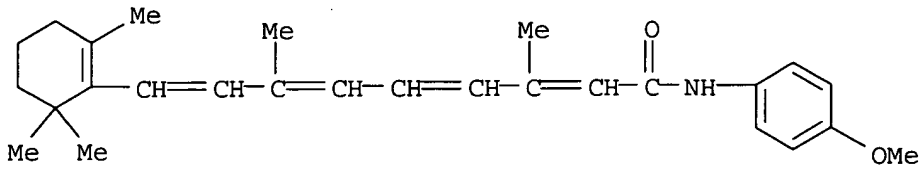


L11 ANSWER 55 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1987:27342 CAPLUS
DN 106:27342
TI N-(4-Hydroxyphenyl)-all-trans-retinamide pharmacokinetics in female rats and mice
AU Hultin, Theresa A.; May, Cynthia M.; Moon, Richard C.
CS Lab. Pathophysiol., IIT Res. Inst., Chicago, IL, 60616, USA
SO Drug Metabolism and Disposition (1986), 14(6), 714-17
CODEN: DMDSAI; ISSN: 0090-9556
DT Journal
LA English
AB The distribution of N-(4-hydroxyphenyl)-all-trans-retinamide (4-HPR)(I) [65646-68-6] and its metabolites was investigated in the liver, serum, mammary gland, and urinary bladder of female rats and mice. Following an i.v. dose of 5 mg/kg to rats, 4-HPR distributed to all tissues examined with the highest levels reached in the liver. The distribution period was completed in about 4 h and was followed by 1st order elimination kinetics. The half-life for 4-HPR elimination from the liver was 9.4 h, from the serum was 12.0 h, (not different from liver), from the mammary gland was 43.6 h, and from the urinary bladder was 9.3 h. A 5-day i.p. dosing study (5 mg/kg/day of 4-HPR) in both rats and mice revealed that 4-HPR distributed to all tissues examined with the highest levels reached in the urinary bladder. 4-HPR and 4 metabolites were detected in the tissue. One coeluted with a cis isomer of 4-HPR (M2) **[75686-07-6]**, another with N-(4-methoxyphenyl)-all-trans-retinamide (4-MPR)(M3) [**79965-10-9**], a 3rd appeared to be a 4-HPR-ester (M4), and the 4th remains unidentified (M1). However, the amount of each metabolite varied between tissues and between species. The concentration of 4-HPR was 2-4 times lower and the percentage of M3 (4-MPR) was 3 times higher in the mouse tissues than in the corresponding tissues of the rat. M2 (cis-4-HPR) and M4 (4-HPR-ester) were present in rat liver but not in mouse liver. Comparison of these data on the distribution of 4-HPR and its metabolites in the mammary gland and urinary bladder with anticarcinogenic activity in vivo demonstrates a good corelation between 4-HPR pharmacokinetics and the chemopreventive action of 4-HPR.
IT **75686-07-6 79965-10-9**
RL: BIOL (Biological study)
(as (hydroxyphenyl)retinamide metabolite)
RN 75686-07-6 CAPLUS
CN Retinamide, N-(4-hydroxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

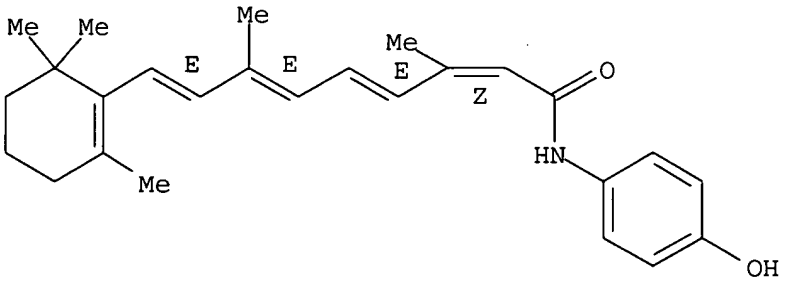


RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



L11 ANSWER 56 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1986:614155 CAPLUS
DN 105:214155
TI Stability-indicating reversed-phase high-performance liquid chromatographic assay for fenretinide in soft gelatin capsules and concentrated corn oil suspensions
AU Sisco, William R.; Schrader, Patricia A.; McLaughlin, Anna M.; Clark, Barbara H.
CS Anal. Dev. Dep., McNeil Pharm., Spring House, PA, 19477, USA
SO Journal of Chromatography (1986), 368(1), 184-7
CODEN: JOCRAM; ISSN: 0021-9673
DT Journal
LA English
AB Fenretinide (I) [65646-68-6] was determined in soft gelatin capsules and concentrated corn oil suspensions by HPLC on a Zorbax ODS column with MeCN-pH 3 acidified water (90:10) as the mobile phase and detection at 254 nm. The average recovery of 101.2% and relative standard deviation of 0.3% were obtained.
The method is suitable for stability study of I.
IT **75686-07-6**
RL: ANST (Analytical study)
(fenretinide potential degradation product, HPLC of)
RN 75686-07-6 CAPLUS
CN Retinamide, N-(4-hydroxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L11 ANSWER 57 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1986:429791 CAPLUS
DN 105:29791
TI Substituted pyrimidine oxides useful for hair growth promotion
IN Bazzano, Gail Sansone
PA USA
SO PCT Int. Appl., 58 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
PI	WO 8600616	A1	19860130	WO 1985-US1329		19850715
	W: JP, US					
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE					
				US 1984-630639	A2	19840713
				US 1985-727357	A	19850425
	EP 187854	A1	19860723	EP 1985-903903		19850715
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE					
				US 1984-630639	A	19840713
				US 1985-727357	A	19850425

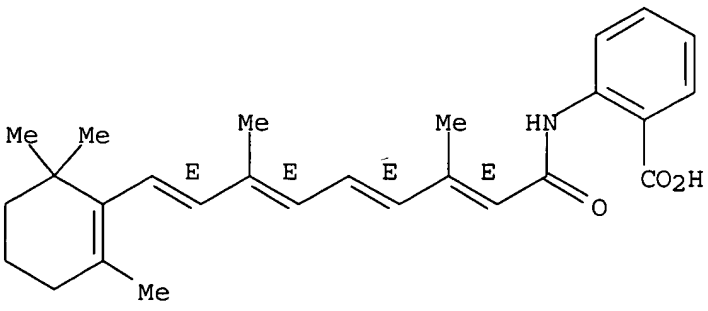
AB Pyrimidine oxides I (R1,R2 = alkoxy, alkoxycarbonyl; R3,R4 = H, alkyl, C3-8 alkenyl, C3-8 cycloalkyl, phenyl-C1-3-alkyl; NR3R4 = 1-pyrrolidinyl, 1-tetrahydropyridyl, 3-pyrrolidyl, aziridinyl, azetidinyl, piperidino, hexahydroazepinyl, heptamethylenimino, octamethylenimino, thiomorpholino, morpholino, 4-alkylpiperazinyl and optionally substituted by 1-3 alkyl groups; X = O, OSO3) are useful for increasing the rate of hair growth and prolonging the anagen phase of the hair cycle. Also, I are peripheral vasodilators. I have improved solubility, improved stability through increased dispersion of charge, longer action, excellent penetration of skin due to lipophilic substituents, compatibility with nonpolar solvents, and can be encapsulated within a syneresis-free hydrophobic polymeric network. I are used in combination with retinoids and/or prostacyclin analogs. Several I were prepared by treating a 2,6-diaminopyrimidine oxide with an Et oxalyl halide or an alkyl haloformate and optionally reacting the resultant compound with pyridine. SO3 complex or Et3N·SO3. I are encapsulated by dissolving or dispersing I in the monomer mix and in-situ polymerized I (R1,R2 = Et, NR3R4 = pyrrolidinyl, X = O)(II) at 60 μg/kg on the heads of hypotrichotic rats increased microvascular perfusion by 60% at 24 h. I, as s.c. implants, were shown to decrease hair loss and prolong the anagen phase of the hair cycle using a rodent model of androgenetic alopecia. Thus, a cream conditioner for topical administration contained all-trans-retinoid acid (entrapped in polymeric beadlets) 1.0, II (entrapped in polymeric beadlets) 10.0, cetrimonium chloride 5.0, cetyl alc. 4.0, EtOH 4.0, butylated hydroxytoluene 1.0, hydrolyzed animal protein 0.5, methylparaben and propylparaben 0.1, stabilizer 0.1, and H2O to 100% by weight

IT **74193-16-1**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(hair prepns. containing pyrimidine oxides and, for promotion of hair growth)

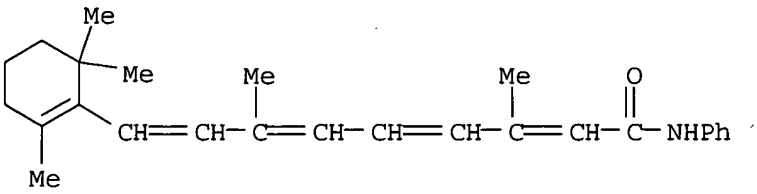
RN 74193-16-1 CAPLUS

CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

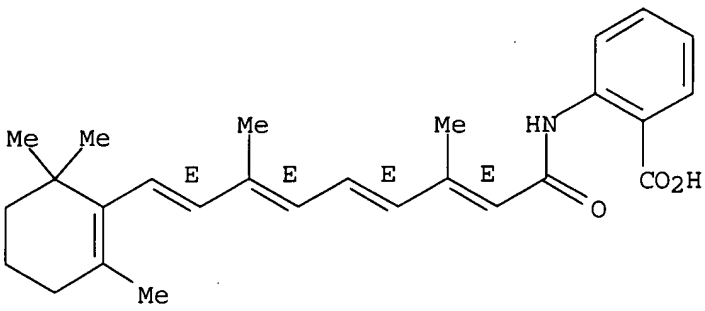


L11 ANSWER 58 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1985:534452 CAPLUS
DN 103:134452
TI QSAR application in chemical carcinogenesis. II. QSAR analysis of a class of carcinogenesis inhibitor: retinoids
AU Niculescu-Duvaz, I.; Simon, Z.; Voiculet, N.
CS Oncol. Inst., Bucharest, 1005, Rom.
SO Carcinogenesis (1985), 6(4), 479-86
CODEN: CRNGDP; ISSN: 0143-3334
DT Journal
LA English
AB Quant. structure-activity relations for the reversion of keratinization of hamster tracheal cell organ culture by structurally related retinoids were formulated. Their biol. activities (ED50.M) were correlated with the following parameters: (1) the minimal topol. difference (describing the fit of the considered mols. with a possible receptor site) and (2) the lipophilicity consts. For computation purposes, the retinoids were divided in 3 series (A, B, and C) according to structural modifications in the cyclic moiety of the mol., in the polienic chain, and in the terminal functional group, resp. The computed regression equations suggested the importance of the stereochem. features of cyclic moiety (for series A, eq. 1, n : 19, r : 0.926, F : 48.19) and of the uninterupted conjugation for the polienic chain (for series B, eq. 6, n =11, r = 0.954, F = 39.39) for the biol. activity. In order to check the prediction potential of the regression equation computed for the overall set of compds. (eq. 10, n = 53, r = 0.853, F = 32.11), it was used to calculate the ED50 for a test series of 15 retinoids. The correlation obtained between ED50exp and ED50calc for this series was r = 0.916, F = 60.25. The nature of the receptor site possibly involved in the interaction with retinoids was discussed.
IT **33631-48-0 74193-16-1 75664-75-4**
RL: BIOL (Biological study)
(carcinogenesis inhibition by, QSAR in)
RN 33631-48-0 CAPLUS
CN Retinamide, N-phenyl- (9CI) (CA INDEX NAME)



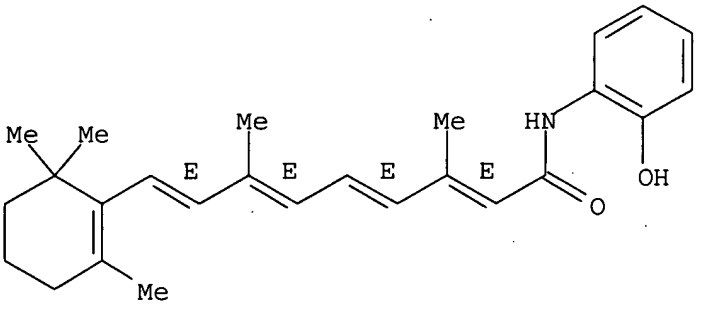
RN 74193-16-1 CAPLUS
CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 75664-75-4 CAPLUS
CN Retinamide, N-(2-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



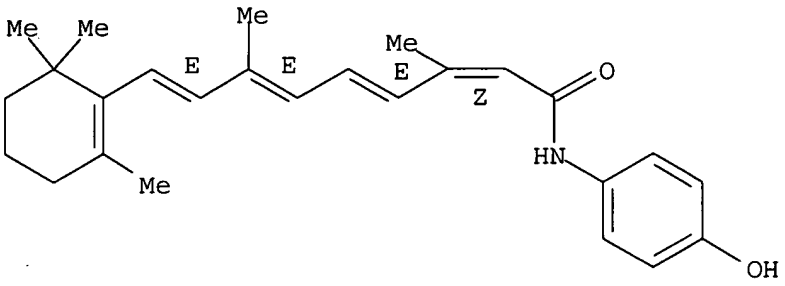
L11 ANSWER 59 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1985:484336 CAPLUS
DN 103:84336
TI Simple high-performance liquid chromatographic method for the separation of retinoids including N-(4-hydroxyphenyl)-all-trans-retinamide
AU Hultin, Theresa A.; Mehta, Rajendra G.; Moon, Richard C.
CS Lab. Pathophysiol., IIT Res. Inst., Chicago, IL, 60616, USA
SO Journal of Chromatography (1985), 341(1), 187-92
CODEN: JOCRAM; ISSN: 0021-9673
DT Journal
LA English
AB A simple, sensitive HPLC method is described for the separation and quantitation of N-(4-hydroxyphenyl)-all-trans-retinamide (I) and its potential metabolites, as well as the separation of these compds. from retinol, retinyl acetate, and retinyl palmitate. Sepns. were performed on a 250 mm + 4.6 mm inner diameter, 10-μm, bonded octadecylsilane, reversed-phase column (Partisil 10 ODS-2). A 70 mm + 2.1 mm inner diameter guard column containing Co:Pell ODS was positioned between the injector and the anal. HPLC column. The column was eluted with a 30-min linear gradient of MeOH-H2O (70:30) (ph ≈6) to 100% MeOH (pH ≈ 7) at a flow rate of 1.2 mL/min. Chromatog. was continued at the final conditions for 40 min. The liver of I-treated female rats (5 mg I/kg/day for 5 days) was used to demonstrate the separation of retinoids in the presence of large amts. of endogenous retinoids found in this tissue. The liver was lyophilized, extracted with CHCl3-MeOH (2:1), and analyzed by HPLC. A I peak was readily detectable as were peaks corresponding to all-trans-4-methoxyphenylretinamide, 13-cis-I, and a I ester, all probable

metabolites of I. A more polar compound which peaked at 13.6 min and which was not present in vehicle-treated animals was considered to be an unidentified metaoblite of I. All other peaks, including retinyl acetate which was added as the internal standard, were present in vehicle-treated animals.

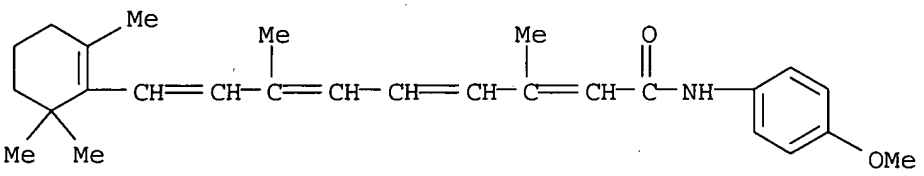
IT **75686-07-6 79965-10-9**
RL: PROC (Process)
(separation of, from retinoids of liver by HPLC)

RN 75686-07-6 CAPLUS
CN Retinamide, N-(4-hydroxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

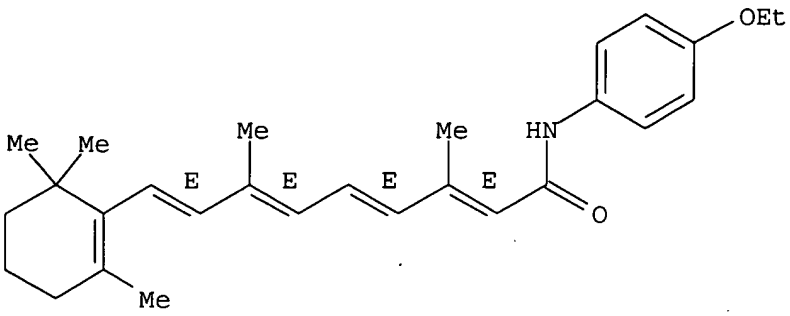


L11 ANSWER 60 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1985:226112 CAPLUS
DN 102:226112
TI Stability-indicating reversed-phase high-performance liquid chromatographic assay for fenretinide drug substance
AU Sisco, W. R.; DiFeo, T. J.
CS McNeil Pharm., Spring House, PA, 19477, USA
SO Journal of Chromatography (1985), 322(2), 380-5
CODEN: JOCRAM; ISSN: 0021-9673
DT Journal
LA English
AB Fenretinide (I) [65646-68-6] was determined by HPLC on Zorbax ODS, using MeCN-acidified H2O (pH 2.0) (75:25) as mobile phase and UV detection at 254 nm. The relation standard deviation was <2.0%. The chromatog. patterns allowed the detection of impurity formed in I samples exposed to heat. The structures and retention times of the potential impurities 13-cis-fenretinide [**75686-07-6**] and retinoic acid [302-79-4] and of other structurally similar retinoids are tabulated.

IT **53839-73-9 75664-75-4 75686-07-6 79965-10-9 96647-04-0**
RL: ANT (Analyte); ANST (Analytical study)
(HPLC of, fenretinide stability determination in relation to)

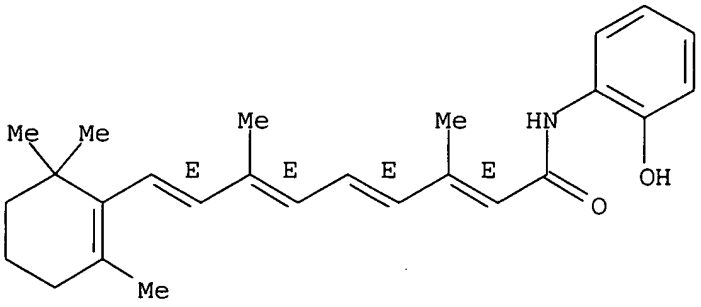
RN 53839-73-9 CAPLUS
CN Retinamide, N-(4-ethoxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



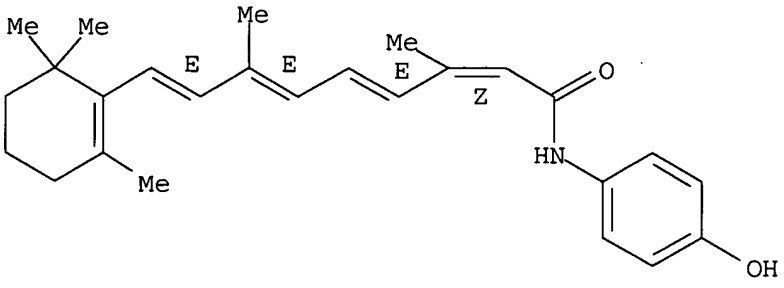
RN 75664-75-4 CAPLUS
CN Retinamide, N-(2-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

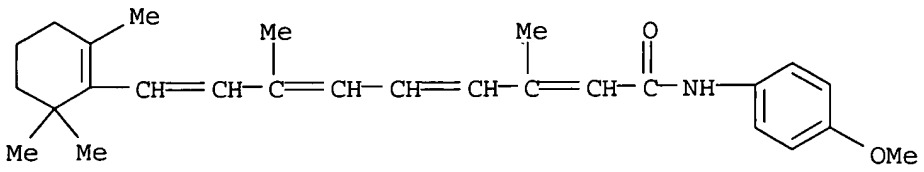


RN 75686-07-6 CAPLUS
CN Retinamide, N-(4-hydroxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

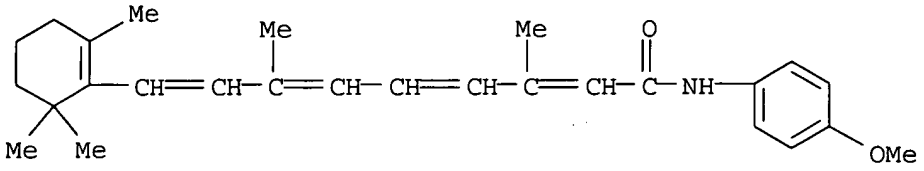
Double bond geometry as shown.



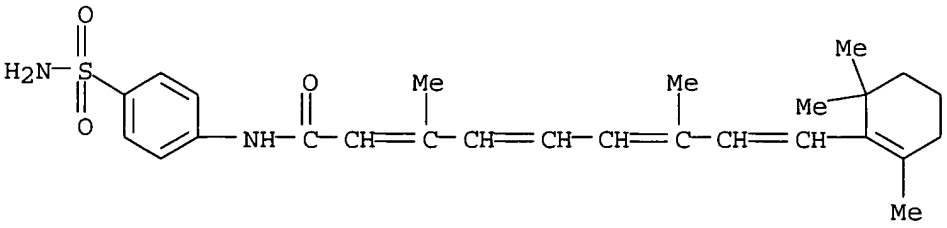
RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RN 96647-04-0 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)



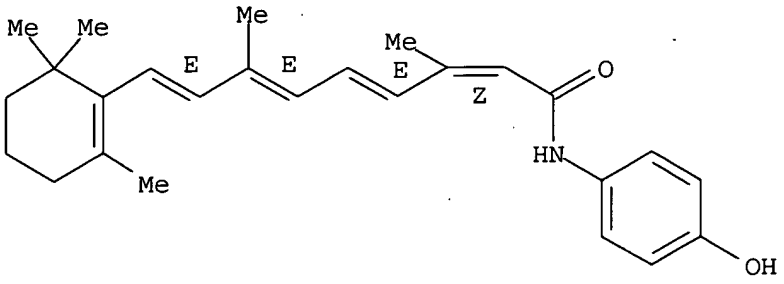
L11 ANSWER 61 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1985:94610 CAPLUS
DN 102:94610
TI Inhibitory effect of N-4-aminosulfonylphenyl retinamide and two other new retinoids on the malignant change of forestomach dysplasia in mice
AU Lin, Peizhong; Zhang, Jinsheng; Ding, Zhenwei
CS Inst. Oncol., Beijing, Peop. Rep. China
SO Zhongguo Yixue Kexueyuan Xuebao (1984), 6(3), 223-4
CODEN: CIHPDR; ISSN: 0253-3774
DT Journal
LA Chinese
AB Effects of 3 new synthetic retinoids on malignant changes of forestomach dysplasia in mice were studied. All showed inhibitory effects, but N-4(aminosulfonylphenyl)retinamide (R-81001) [**93449-27-5**] appeared to be the most effective, the inhibition rate being 78.6%. No toxic effect was observed with a therapeutic dose of R-81001 (50 mg/kg).
IT **93449-27-5**
RL: BIOL (Biological study)
(stomach neoplasm inhibition by)
RN 93449-27-5 CAPLUS
CN Retinamide, N-[4-(aminosulfonyl)phenyl]- (9CI) (CA INDEX NAME)



L11 ANSWER 62 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1984:550348 CAPLUS
DN 101:150348
TI Structure-activity relationships of retinoids in developmental toxicology. I. Studies on the nature of the polar terminus of the vitamin A molecule

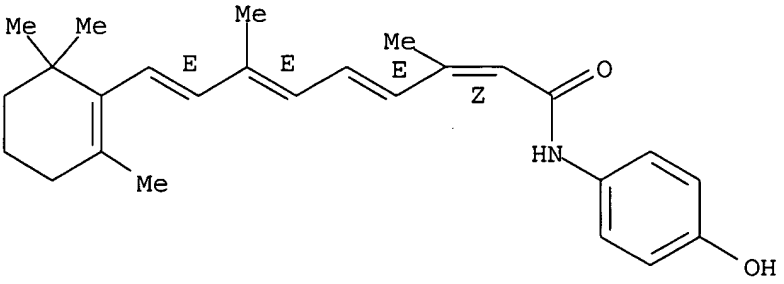
AU Willhite, Calvin C.; Dawson, Marcia I.; Williams, Kandace J.
CS West. Reg. Cent., U. S. Dep. Agric., Berkeley, CA, 94710, USA
SO Toxicology and Applied Pharmacology (1984), 74(3), 397-410
CODEN: TXAPA9; ISSN: 0041-008X
DT Journal
LA English
AB The teratogenic activities of all-trans-retinoyl fluoride [83802-77-1], all-trans-3-retinylidene-2,4-pentanedione [6991-16-8], all-trans-2-retinylidene-1,3-cyclopentanedione [70359-69-2], all-trans-2-retinylidene-5,5-dimethyl-1,3-cyclohexanedione [70424-15-6], all-trans-2-retinylidene-5-p-methoxyphenyl-1,3-cyclohexanedione [73685-21-9], all-trans-2-retinylidene-1,3-cyclooctanedione [73685-26-4], all-trans-5-[2,6-dimethyl-8-(2,6,6-trimethylcyclohexen-1-yl)-1,3,5,7-octatetraen-1-yl]tetrazole [74597-00-5], ethyl all-trans-9-(exo-2-bicyclo[2.2.1]heptyl)-3,7-dimethyl-2,4,6,8-nonatetraenoate [79056-05-6], ethyl all-trans-4-[2-methyl-4-(2,6,6-trimethyl-1-cyclohexenen-1-yl)-1,3-butadien-1-yl]benzoate [77837-56-0], 13-cis-N-(4-hydroxyphenyl)retinamide [**75686-07-6**], and 13-cis-N-(2-hydroxyethyl)retinamide [75686-05-4] were determined in the hamster and compared with that of all-trans-retinoic acid [302-79-4]. Administration of a single oral dose of the retinoids failed to induce signs of the hypervitraminosis A intoxication syndrome in any of the dams, and the maternal weight gain was not significantly different from the vehicle control value, except following intubation of the retinamides, where maternal weight gain was significantly depressed. All of the retinylidene 1,3-diketones studied here were devoid of significant teratogenic activity. The retinamides failed to induce either an elevated mean litter frequency of malformed fetuses or a syndrome of anomalies similar to that induced by administration of an equimolar dose of all-trans-retinoic acid. All of the other retinoids induced a syndrome of malformations similar to that induced by administration of all-trans-retinoic acid and were associated with a significant increase in the number of litters containing ≥1 malformed fetuses and an elevated mean litter frequency of malformed fetuses. The teratogenic activity in the hamster of this series of retinoids was independent of structural modifications in either the β-cyclogeranylidene ring or the polyene chain of the mol. The results suggest that the changes in teratogenic activity associated with structural modification of vitamin A at C15 were primarily dependent upon the presence of or biotransformation of a free carboxyl or a moiety with an equivalent pKa at C15, not upon the mol. size of the substituent or the stereochem. position about C13. Since major structural modifications of vitamin A were made without the substantial loss of teratogenic activity, the structural requirements of retinoids for induction of terata were not extraordinarily exacting.
IT **75686-07-6**
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(teratogenicity of, mol. structure in relation to)
RN 75686-07-6 CAPLUS
CN Retinamide, N-(4-hydroxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



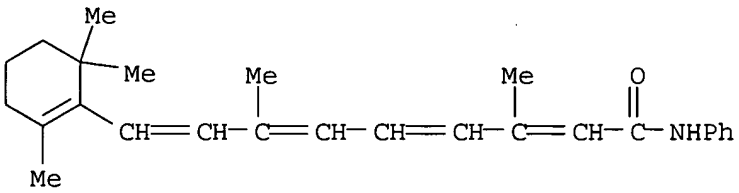
L11 ANSWER 63 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1984:530921 CAPLUS
DN 101:130921
TI Synthesis and properties of some 13-cis- and all-trans-retinamides
AU Shealy, Y. Fulmer; Frye, Jerry L.; O'Dell, C. Allen; Thorpe, Martha C.; Kirk, Marion C.; Coburn, W. C., Jr.; Sporn, Michael B.
CS South. Res. Inst., Birmingham, AL, 35255, USA
SO Journal of Pharmaceutical Sciences (1984), 73(6), 745-51
CODEN: JPMSAE; ISSN: 0022-3549
DT Journal
LA English
AB Several all-trans-retinamides (I, R = alkyl, hydroxyalkyl, etc.) were prepared by, e.g., amidation of all-trans-retinoyl chloride with the appropriate amines, whereas the 13-cis amides II [R = Et, Bu, p-HOC6H4, HOCH2CH2, HO(CH2)4] were synthesized from 13-cis-retinoic acid via either its acid chloride or imidazolide.
IT **75686-07-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 75686-07-6 CAPLUS
CN Retinamide, N-(4-hydroxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L11 ANSWER 64 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1984:19042 CAPLUS
DN 100:19042
TI Lack of inhibition by retinoids of bis(2-oxopropyl)nitrosamine-induced carcinogenesis in Syrian hamsters
AU Birt, Diane F.; Davies, Marc H.; Pour, Parviz M.; Salmasi, Shahrokh
CS Med. Cent., Univ. Nebraska, Omaha, NE, 68105, USA
SO Carcinogenesis (1983), 4(10), 1215-20
CODEN: CRNGDP; ISSN: 0143-3334
DT Journal

LA English
AB Syrian hamsters were treated with either a low (10 mg/kg) or high (40 mg/kg) single dose of bis(2-oxopropyl)nitrosamine (BOP) [60599-38-4] and beginning 1 wk later fed either low (0.2 mmol/kg diet) or high (0.4-1.0 mmol/kg diet) levels of 1 of 4 retinoids [13-cis-retinoic acid (13-cis-RA) [4759-48-2], N-ethylretinamide (ERA) [33631-41-3], N-(2-hydroxyethyl)retinamide (OHERA) [33631-47-9], or N-(phenyl)retinamide (PRA) [**33631-48-0**]] for 40 or 50 wk. The high retinoid levels (0.4-1.0 mmol/kg diet) fed following the highest BOP treatment enhanced pancreatic carcinoma yields (average number/effective animal) in males fed all 4 retinoids, and in females fed ERA and 13-cis-RA. Enhanced adenoma yields were also seen in all groups when high retinoid levels were fed following 40 mg BOP/kg. Similarly, tumor yields at extrapancreatic sites were elevated in retinoid-fed hamsters of both sexes after 40 mg BOP/kg. However, these retinoid levels caused an increased adenoma yield in male hamsters only and did not modify carcinoma yields when fed following 10 mg BOP/kg. Similarly, tumor yields at extrapancreatic sites were elevated in retinoid-fed hamsters of both sexes after 40 mg BOP/kg and in males fed ERA and 13-cis-RA after 10 mg BOP/kg when retinoids were given at the high levels (0.4-1.0 mmol/kg diet). Increased incidences of bile duct and liver tumors in particular were found in hamsters given 40 mg BOP/kg. Consumption of retinoid levels of ≥0.4 mmol/kg diet was also associated with a high incidence of liver cell necrosis, ovarian cysts, and ovarian hemorrhage. Retinoids (ERA, OHERA, and PRA) fed at the low level (0.2 mmol/kg diet) following the low BOP dose did not enhance carcinogenesis in the pancreas or at other sites and did not cause alterations in morphol. observations.
IT **33631-48-0**
RL: BIOL (Biological study)
(bis(oxopropyl)nitrosamine-induced carcinogenesis response to)
RN 33631-48-0 CAPLUS
CN Retinamide, N-phenyl- (9CI) (CA INDEX NAME)



L11 ANSWER 65 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1983:581484 CAPLUS
DN 99:181484
TI Use of retinoids and minoxidil (2,4-diamino-6-piperidinopyrimidine 3-oxide) to increase the rate of growth of human scalp hair and to treat certain types of alopecias
IN Bazzano, Gail Sansone
PA USA
SO PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 4

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI	WO 8302558	A1	19830804	WO 1982-US1593		19821108
	W: BR, JP					
	RW: AT, BE, CH, DE, FR, GB, LU, NL, SE					
				US 1981-318607	A	19811109
	EP 93770	A1	19831116	EP 1983-900123		19821108
	EP 93770	B1	19910619			
	R: AT, BE, CH, DE, FR, GB, LI, LU, NL, SE					
				US 1981-318607	A	19811109
	AT 64525	E	19910715	AT 1983-900123		19821108
				US 1981-318607	A	19811109
				EP 1983-900123	A	19821108
				WO 1982-US1593	A	19821108

PATENT FAMILY INFORMATION:

FAN 1983:8171

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
PI WO 8202833	A1	19820902	WO 1981-US338		19810330
W: BR, JP, SU					
RW: AT, CH, DE, FR, GB, LU, NL, SE					
			US 1981-235169	A	19810217
JP 58500165	T2	19830203	JP 1981-501568		19810330
JP 03049887	B4	19910731			
			US 1981-235169	A	19810217
			WO 1981-US338	W	19810330
EP 71598	A1	19830216	EP 1981-901199		19810330
EP 71598	B1	19900509			
R: AT, CH, DE, FR, GB, LI, LU, NL, SE					
			US 1981-235169	A	19810217
AT 52410	E	19900515	AT 1981-901199		19810330
			US 1981-235169	A	19810217
			EP 1981-901199	A	19810330
			WO 1981-US338	A	19810330

FAN 1993:415110

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
PI US 5183817	A	19930202	US 1988-283646		19881213
			US 1981-235169	B2	19810217
			US 1981-318607	B2	19811109
			US 1982-368730	B2	19820609
			US 1982-414854	B2	19820903
			US 1983-463146	B1	19830202
			US 1987-136525	B2	19871222

FAN 1996:333047

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
PI US 5514672	A	19960507	US 1988-283649		19881213
			US 1988-283649	B2	19881213
			US 1987-136525	B1	19871222
			US 1983-463146	B2	19830202
			US 1981-235169	B2	19810217
			US 1981-318607	B2	19811109
			US 1982-386730		19820609

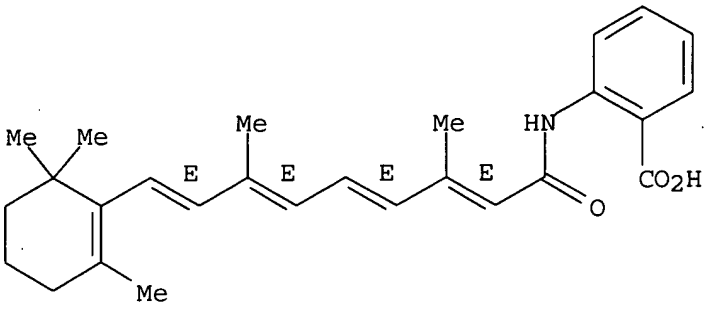
AB A synergistic combination of minoxidil (I) [38304-91-5] or its derivs. and retinoids increases the rate of growth of human scalp hair and is useful for the treatment of alopecia. The combination may be administered in a variety of formulations such as lotions, creams, conditioners, shampoos and oral prepns. such as tablets, etc. Optionally, the compns. may contain vasodilators. Thus, a lotion was prepared containing all-trans-retinoic acid (II) [302-79-4] 0.1, I 3.0, propylene glycol 5.0, BHT 0.1, safflower oil 1.0, α-tocopherol acetate 0.5 and stabilizer

0.1 and EtOH qs to 100% by weight The effectiveness of the lotion was demonstrated in humans.

IT **74193-16-1**
RL: BIOL (Biological study)
(hair growth and alopecia treatment compns. containing minoxidil and)

RN 74193-16-1 CAPLUS
CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

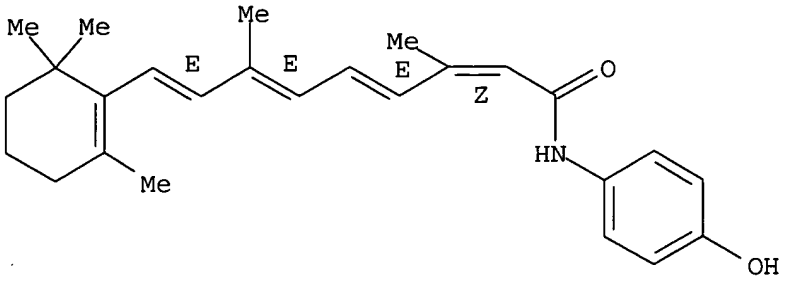


L11 ANSWER 66 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1983:574626 CAPLUS
DN 99:174626
TI Subacute toxicity of all-trans- and 13-cis-isomers of N-ethyl retinamide, N-2-hydroxyethyl retinamide, and N-4-hydroxyphenyl retinamide
AU Sani, Brahma P.; Meeks, Robert G.
CS Kettering-Meyer Lab., South. Res. Inst., Birmingham, AL, 35255, USA
SO Toxicology and Applied Pharmacology (1983), 70(2), 228-35
CODEN: TXAPA9; ISSN: 0041-008X
DT Journal
LA English
AB The computed LD90, LD50, and LD10 values for combined sexes of mice following 21 daily doses of the title retinoids were determined Identical doses of the same retinoid by i.p. administration produced more toxicity and deaths than by the oral route. The 13-cis-isomers exhibited comparatively less toxicity than the corresponding all-trans-isomer. Based on the lethality data, all-trans-retinoic acid [302-79-4] was most toxic followed by all-trans-N-2-hydroxyethylretinamide [33631-47-9] > all-trans-N-4-hydroxyphenylretinamide [65646-68-6] > all-trans-N-ethylretinamide [33631-41-3]. Changes in clin. chemical and hematol. parameters associated with administration of the retinamides include a dose-dependent peripheral anemia evidenced by erythrocytopenia and decreased Hb concentration and packed cell volume Retinoid treatment also caused
increased plasma alkaline phosphatase activity and decreased serum albumin levels. Histopathol. changes associated with retinoid administration primarily included liver lesions as characterized by degeneration and enlargement of hepatocytes. Synthetic retinoids are less toxic than the natural ones.

IT **75686-07-6**
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(toxicity of)

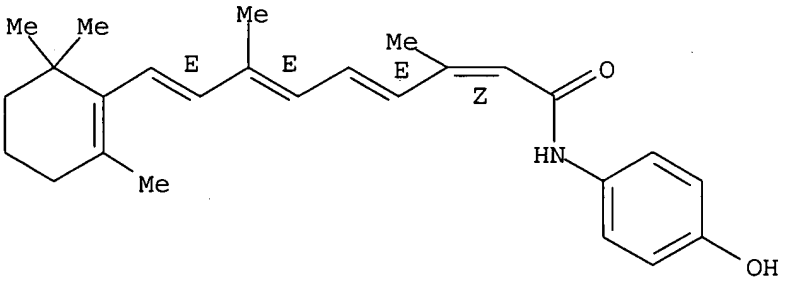
RN 75686-07-6 CAPLUS
CN Retinamide, N-(4-hydroxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L11 ANSWER 67 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1983:530720 CAPLUS
DN 99:130720
TI Spectroscopic characterization of 13-cis- and all-trans-retinamides
AU Coburn, William C., Jr.; Thorpe, Martha C.; Shealy, Y. Fulmer; Kirk, Marion C.; Frye, Jerry L.; O'Dell, C. Allen
CS South. Res. Inst., Birmingham, AL, 35255-5305, USA
SO Journal of Chemical and Engineering Data (1983), 28(4), 422-8
CODEN: JCEAAX; ISSN: 0021-9568
DT Journal
LA English
AB Data from detns. of the 1H and 13C NMR, UV, IR, and mass spectra of some 13-cis- and all-trans-retinamides are reported. Characteristic shifts in the 13C and 1H NMR spectra of the 13-cis-retinamides readily distinguish them from the corresponding all-trans isomers. The mass spectra include strong mole.-ion and characteristic fragment peaks. The main UV maximum of the 13-cis amides shows a slight shift to longer wavelength (2-4 nm) from that of the all-trans amides and a lower molar absorptivity.
IT **75686-07-6**
RL: PRP (Properties)
(spectra of)
RN 75686-07-6 CAPLUS
CN Retinamide, N-(4-hydroxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

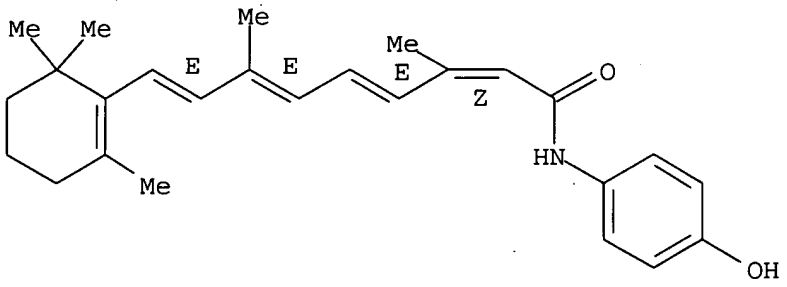
Double bond geometry as shown.



L11 ANSWER 68 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1983:83308 CAPLUS
DN 98:83308
TI Influence of 15 retinoic acid amides on urinary bladder carcinogenesis in the mouse
AU Moon, R. C.; McCormick, D. L.; Becci, P. J.; Shealy, Y. F.; Frickel, F.; Paust, J.; Sporn, M. B.

CS Lab. Pathophysiol., IIT Res. Inst., Chicago, IL, 60616, USA
SO Carcinogenesis (1982), 3(12), 1469-72
CODEN: CRNGDP; ISSN: 0143-3334
DT Journal
LA English
AB A series of expts. was conducted to determine the efficacy of 15 synthetic retinamides as inhibitors of chemical carcinogenesis of the urinary bladder in C57BL/6 + DBA/2F1 mice. Eight of the retinamides tested, e.g. trans-N-2-hydroxyethylretinamide [33631-47-9], had significant protective activity when administered at nontoxic levels in the diet. Minor structural alterations, such as the addition of a Me or OH group to the terminal amide moiety had a major influence on the anticarcinogenic activity of the retinamides. Although 13-cis-retinamides generally were less toxic on a molar basis than were their all-trans-isomers, no consisted pattern of differential anticarcinogenic activity was noted among the 6 pairs of all-trans- and 13-cis-isomers tested. all-trans-4-hydroxyphenyl retinamide [65646-68-6], Was among most active and least toxic of the retinoids tested.
IT **75686-07-6**
RL: BIOL (Biological study)
(urinary bladder carcinogenesis inhibition by)
RN 75686-07-6 CAPLUS
CN Retinamide, N-(4-hydroxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

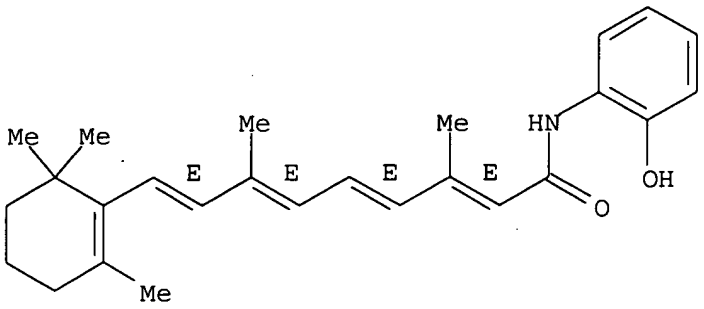


L11 ANSWER 69 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1982:123037 CAPLUS
DN 96:123037
TI Studies on antitumor agents. Synthesis of derivatives of retinoic acid
AU Xu, Shiping; Guo, Zongru; Yuan, Zhanliang; Li, Lanmin; Huang, Liang
CS Inst. Mat. Med., Chin. Acad. Med. Sci., Beijing, Peop. Rep. China
SO Yaoxue Xuebao (1981), 16(9), 678-86
CODEN: YHHPAL; ISSN: 0513-4870
DT Journal
LA Chinese
AB Twenty-seven anti-tumor (no data) retinoic acid amides or esters were prepared by amidation or esterification of retinoic acid (I) with amines, e.g., o-, m- or p-H2NC6H4O2R (R = H, Et) or hydroxy compds. e.g., o-, p-HOC6H4R1 [R1 = CO2Et, CHO, CH(OEt)2], etc., resp. N-[p-(Ethoxycarbonyl)phenyl]retinoamide was the most active and had very low toxicity in mice (no data in original).
IT **75664-75-4P 75664-76-5P 75664-78-7P**
79965-10-9P 80850-62-0P 80850-63-1P
80850-64-2P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological

study); PREP (Preparation)
(preparation and antitumor activity of)

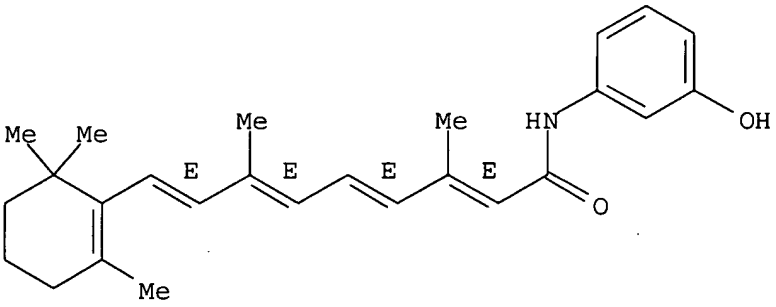
RN 75664-75-4 CAPLUS
CN Retinamide, N-(2-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



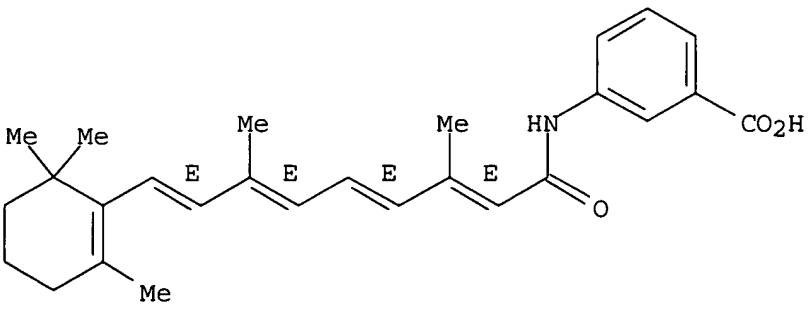
RN 75664-76-5 CAPLUS
CN Retinamide, N-(3-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

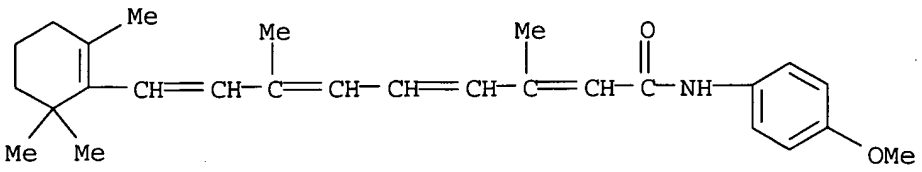


RN 75664-78-7 CAPLUS
CN Retinamide, N-(3-carboxyphenyl)- (9CI) (CA INDEX NAME)

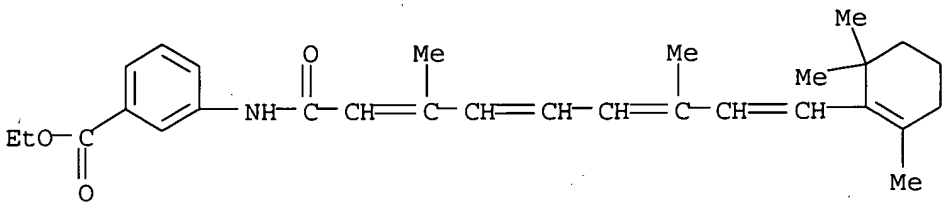
Double bond geometry as shown.



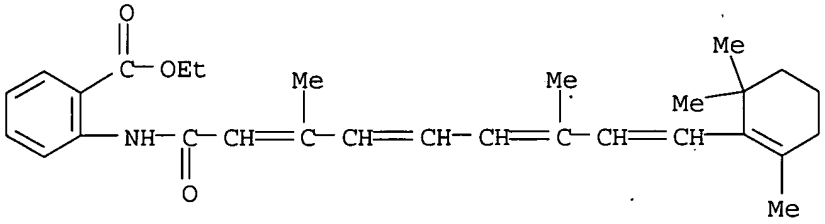
RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



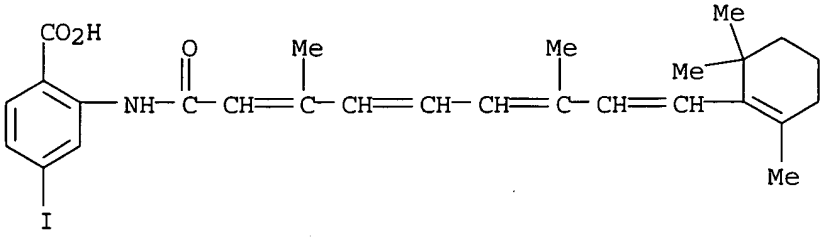
RN 80850-62-0 CAPLUS
CN Retinamide, N-[3-(ethoxycarbonyl)phenyl]- (9CI) (CA INDEX NAME)



RN 80850-63-1 CAPLUS
CN Retinamide, N-[2-(ethoxycarbonyl)phenyl]- (9CI) (CA INDEX NAME)



RN 80850-64-2 CAPLUS
CN Retinamide, N-(2-carboxy-5-iodophenyl)- (9CI) (CA INDEX NAME)

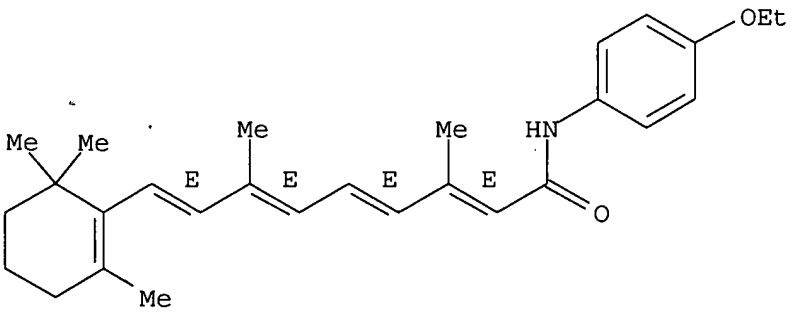


L11 ANSWER 70 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1982:28272 CAPLUS
DN 96:28272
TI Biotransformation and biological activity of N-(4-hydroxyphenyl) retinamide derivatives in rodents
AU Swanson, Brian N.; Newton, Dianne L.; Roller, Peter P.; Sporn, Michael B.
CS Div. Cancer Cause and Prevention, Natl. Cancer Inst., Bethesda, MD, USA
SO Journal of Pharmacology and Experimental Therapeutics (1981), 219(3), 632-7
CODEN: JPETAB; ISSN: 0022-3565

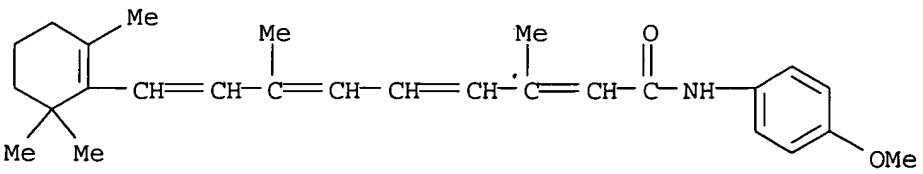
DT Journal
LA English
AB The metabolism and bioactivity of N-(4-hydroxyphenyl)-all-trans-retinamide (HPR) [65646-68-6] and of various O-alkyl and ester derivs. of HPR were investigated in rodents. The principal metabolite of HPR in tissues is N-(4-methoxyphenyl)-all-trans-retinamide [**79965-10-9**]. This is equipotent to HPR in reversing keratinization of retinoid-deficient hamster trachea in vitro. Another nonpolar metabolite of HPR is also present in tissue and (although not pos. identified) is thought to be a long-chain fatty acid ester of HPR. HPR is excreted into rat bile as numerous polar retinamides, including HPR O-glucuronide [79982-82-4]. The rate of hydrolysis of HPR esters by rat serum and hepatic enzymes in vitro is inversely related to the length of the esterified acid side group. After a 30-min incubation at 37° in serum, the percentages of hydrolysis of the acetyloxy [75858-20-7], propionyloxy [75858-21-8], butyryloxy [75858-22-9], pivaloyloxy [75664-77-6], and octanoyloxy [79965-11-0] esters of HPR were 41, 20, 7.5, 1.9, and 1.5, resp. In contrast, hydrolysis by hepatic esterases is more rapid, particularly for the pivaloyloxy ester. The potency of the various HPR esters in the tracheal organ culture bioassay decreases as the length of the esterified side group increases; the acetyloxy ester is at least 5 times more potent than the octanoyloxy ester.

IT **53839-73-9**
RL: BIOL (Biological study)
(keratinization in retinoid deficiency reversal by and metabolism of)
RN 53839-73-9 CAPLUS
CN Retinamide, N-(4-ethoxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

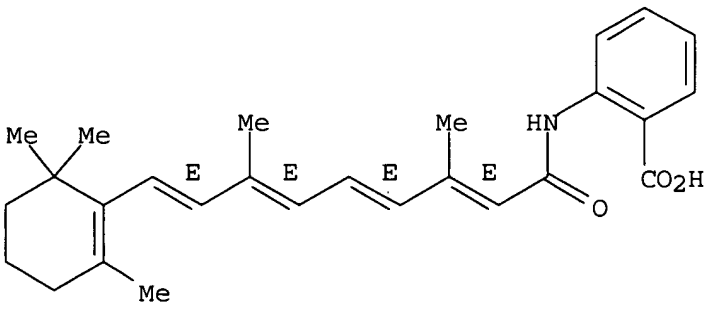


IT **79965-10-9**
RL: BIOL (Biological study)
(keratinization in retinoid deficiency reversal by, as (hydroxyphenyl)retinamide metabolite)
RN 79965-10-9 CAPLUS
CN Retinamide, N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



L11 ANSWER 71 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1981:454629 CAPLUS
DN 95:54629
TI Characterization of retinoic acid-induced alterations in the proliferation and differentiation of a murine and a human melanoma cell line in culture
AU Lotan, Reuben; Neumann, George; Lotan, Dafna
CS Dep. Dev. Cell Biol., Univ. California, Irvine, CA, 92717, USA
SO Annals of the New York Academy of Sciences (1981), 359(Modulation Cell. Interact. Vitam. A Deriv. (Retinoids)), 150-70
CODEN: ANYAA9; ISSN: 0077-8923
DT Journal
LA English
AB The murine S91 and the human Hs939 melanoma cell lines were employed for the characterization of various biochem. changes induced by retinoids. Retinoic acid (RA)(I) [302-79-4] causes a time-dependent, and reversible reduction in cell proliferation rate in liquid medium and inhibits growth in agar. The proportion of cells in the G1 phase of the cell cycle increases in RA-treated cells, and the uptake of TdR. UdR and Leu decreases. The growth inhibitory effect of RA is apparently not mediated via labilization of lysosomes, increase in cAMP or changes in the synthesis of prostaglandins or polyamines. Exposure to RA stimulates tyrosinase activity and increases melanin content severalfold over the levels found in untreated cells. Various retinoids exhibit the activities of RA; however, their potencies vary depending on their structure. Those possessing a free-COOH at C-15 are usually more effective than those with a different group or with a derivatized carboxyl. A pos. correlation exists between the ability of retinoids with a free -COOH in C-15 to inhibit growth and to bind to an RA-binding protein found in the S91 melanoma cells.
IT **74193-16-1**
RL: BIOL (Biological study)
(cell proliferation response to)
RN 74193-16-1 CAPLUS
CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L11 ANSWER 72 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1981:15921 CAPLUS
DN 94:15921
TI Retinoic acid- and 7,8-dehydroretinoic acid N-(carboxyphenyl)amides and pharmaceutical compositions containing them
IN Paust, Joachim; Nuerrenbach, Axel
PA BASF A.-G., Fed. Rep. Ger.
SO Eur. Pat. Appl., 15 pp.
CODEN: EPXXDW

DT Patent
LA German
FAN.CNT 1

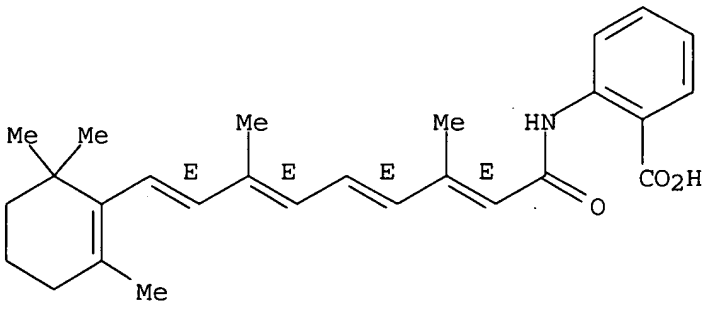
	PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
PI	EP 9777	A1	19800416	EP 1979-103684		19790928
	EP 9777	B1	19820505			
	R: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE					
				DE 1978-2843811	A	19781007
	DE 2843811	A1	19800424	DE 1978-2843811	A	19781007
	AT 964	E	19820515	AT 1979-103684		19790928
				DE 1978-2843811	A	19781007
				EP 1979-103684	A	19790928
	CA 1127170	A1	19820706	CA 1979-336670		19790928
				DE 1978-2843811	A	19781007
	JP 55051058	A2	19800414	JP 1979-128112		19791005
				DE 1978-2843811	A	19781007

AB Nine N-(carboxyphenyl) derivs. (I) of all-(E)- or 13-(Z)-retinoic or all-(E)-7,8-didehydroretinoic acid amides, useful for the prevention of cancers of the skin, mucous membranes, and inner organs (no data), were prepared Thus, 75 weight parts retinoic acid was converted into 33 weight parts retinoic acid chloride, which reacted with 34 volume parts p-H2NH6H4CO2H in pyridine to give 75 weight parts N-(p-carboxyphenyl)-all-E-retinoic acid amide. Five pharmaceutical prepns. containing I were also formulated.

IT **74193-16-1P 75664-78-7P 75918-49-9P 75918-50-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and pharmaceuticals containing)

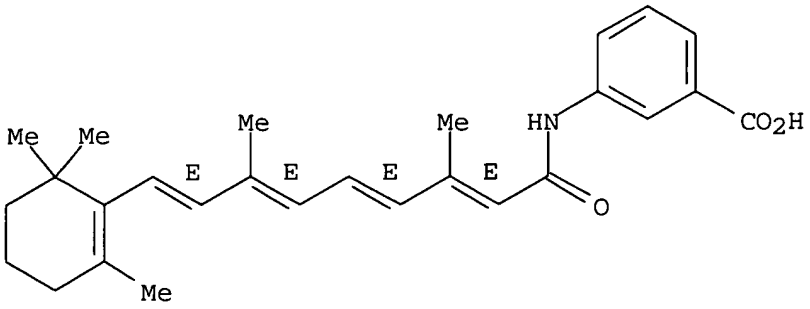
RN 74193-16-1 CAPLUS
CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



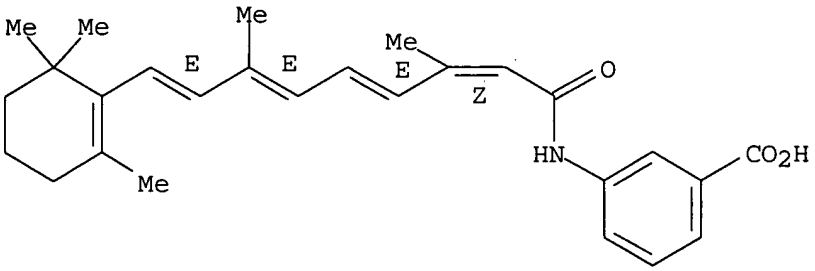
RN 75664-78-7 CAPLUS
CN Retinamide, N-(3-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



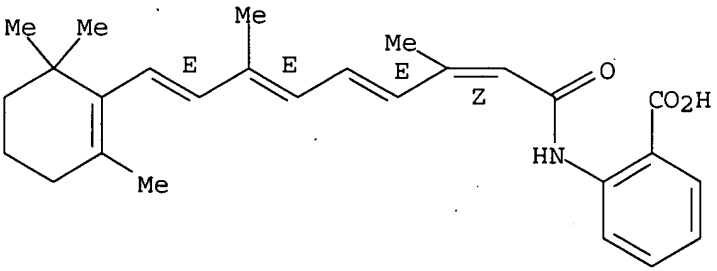
RN 75918-49-9 CAPLUS
CN Retinamide, N-(3-carboxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 75918-50-2 CAPLUS
CN Retinamide, N-(2-carboxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

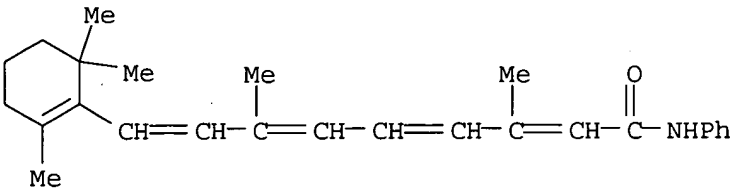


L11 ANSWER 73 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1980:630586 CAPLUS
DN 93:230586
TI Structure-activity relationships of retinoids in hamster tracheal organ culture
AU Newton, Dianne L.; Henderson, William R.; Sporn, Michael B.
CS Lab. Chemoprevent., Natl. Cancer Inst., Bethesda, MD, 20205, USA
SO Cancer Research (1980), 40(10), 3413-25
CODEN: CNREA8; ISSN: 0008-5472
DT Journal
LA English
AB Structure-activity relationships are summarized for 87 retinoids, using

reversal of keratinization in the hamster tracheal organ culture system to measure biol. activity. Classes of compds. evaluated include all-trans-retinoic acid (I) [302-79-4] and its esters, ring-modified analogs of all-trans-retinoic acid and its esters, analogs in which both ring and side chain have been modified, all-trans-retinol and derivs., all trans-retinoic acid amides, 13-cis-retinoic acid [4759-48-2] and derivs., and 5,6-epoxyretinoids. The activity of many synthetic amide derivs. of all-trans- or 13-cis-retinoic acids approaches that of the parent compds. No metabolite of all-trans- or 13-cis-retinoic acid has yet been identified which has greater activity than the parent compds. in this assay. New synthetic derivs. with a gem-di-Me group at position 4 in the cyclohexenyl ring and 2 aromatic rings in the side chain have activity equal to or greater than that of all-trans- or 13-cis-retinoic acid, with some activity detectable in the 10-11 M range.

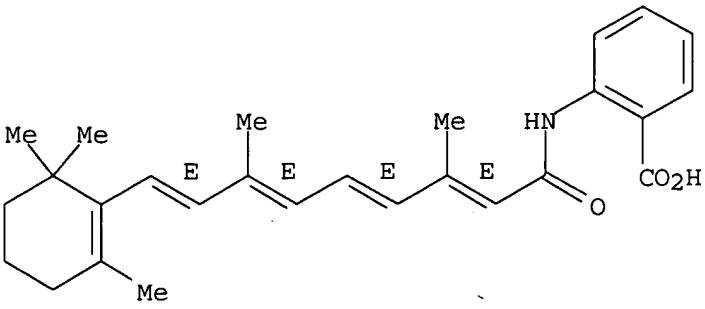
IT **33631-48-0 74193-16-1 75664-75-4**
75664-76-5 75664-78-7 75686-07-6
RL: BIOL (Biological study)
(keratinization reversal by, in trachea, structure in relation to)

RN 33631-48-0 CAPLUS
CN Retinamide, N-phenyl- (9CI) (CA INDEX NAME)



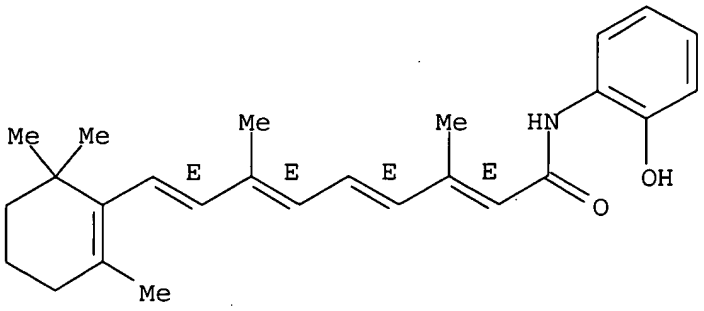
RN 74193-16-1 CAPLUS
CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



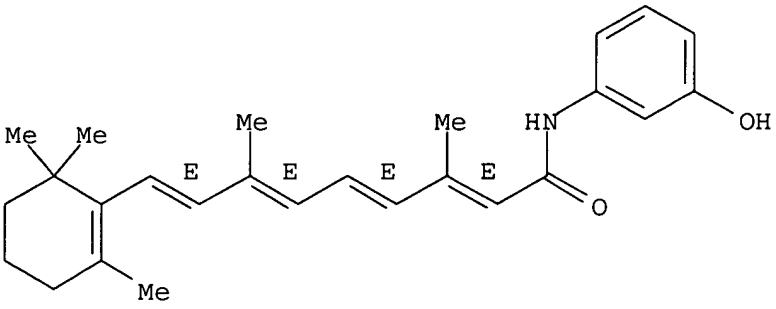
RN 75664-75-4 CAPLUS
CN Retinamide, N-(2-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



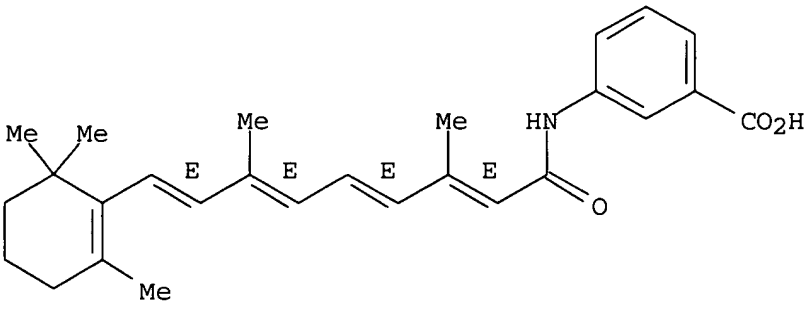
RN 75664-76-5 CAPLUS
CN Retinamide, N-(3-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



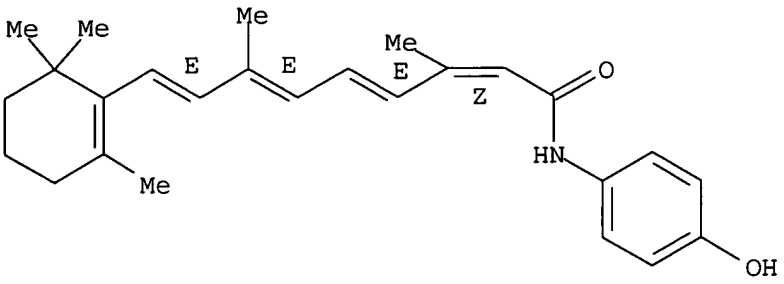
RN 75664-78-7 CAPLUS
CN Retinamide, N-(3-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



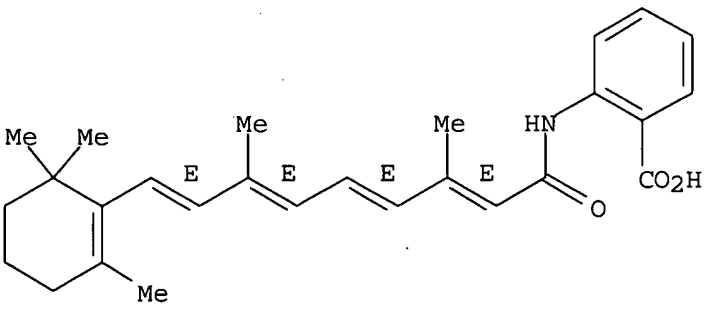
RN 75686-07-6 CAPLUS
CN Retinamide, N-(4-hydroxyphenyl)-, 13-cis- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L11 ANSWER 74 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1980:443336 CAPLUS
DN 93:43336
TI Relationships among retinoid structure, inhibition of growth, and cellular retinoic acid-binding protein in cultured S91 melanoma cells
AU Lotan, Reuben; Neumann, George; Lotan, Dafna
CS Sch. Biol. Sci., Univ. California, Irvine, CA, 92717, USA
SO Cancer Research (1980), 40(4), 1097-102
CODEN: CNREA8; ISSN: 0008-5472
DT Journal
LA English
AB S91 melanoma cells, which are sensitive to retinoic acid and contain a cellular retinoic acid-binding protein (RABP), were investigated for a possible correlation between the capacities of various retinoids to inhibit cell proliferation and to bind to the RABP. In addition to retinoic acid, many retinoids were capable of inhibiting the proliferation of S91 melanoma cells, although some were considerably less active. A pos. correlation was found between the abilities of retinoids possessing a free carboxyl group at C15 to inhibit cell proliferation and to bind to RABP. The structure-activity relation established with the S91 cells are compared with previous reports on the biol. activities of various retinoids in other systems.
IT **74193-16-1**
RL: BIOL (Biological study)
(melanoma cell division response to, binding to retinoic acid-binding protein in relation to)
RN 74193-16-1 CAPLUS
CN Retinamide, N-(2-carboxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L11 ANSWER 75 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1974:505757 CAPLUS

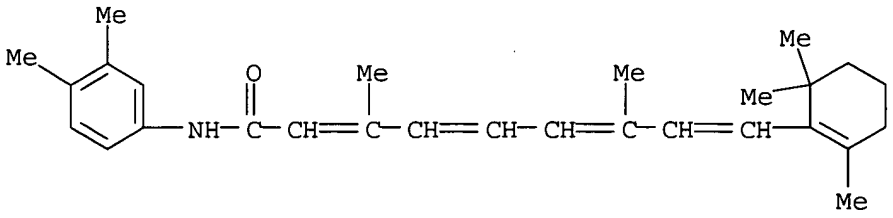
DN 81:105757
TI Amides of vitamin A acid
IN Koenig, Horst; Peh, Jutta; Scholz, Herbert; Paust, Joachim
PA BASF A.-G.
SO Ger. Offen., 18 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
PI	DE 2300107	A1	19740711	DE 1973-2300107		19730103
	DE 2300107	C2	19820311		A	
	GB 1449027	A	19760908	GB 1973-59008		19731220
				DE 1973-2300107	A	19730103
	FR 2212135	A1	19740726	FR 1973-46330		19731226
				DE 1973-2300107	A	19730103
	CH 582139	A	19761130	CH 1973-18229		19731228
				DE 1973-2300107	A	19730103
	AT 7400019	A	19751115	AT 1974-19		19740102
	AT 331426	B	19760825			
				DE 1973-2300107	A	19730103
	BE 809367	A1	19740703	BE 1974-139494		19740103
				DE 1973-2300107	A	19730103

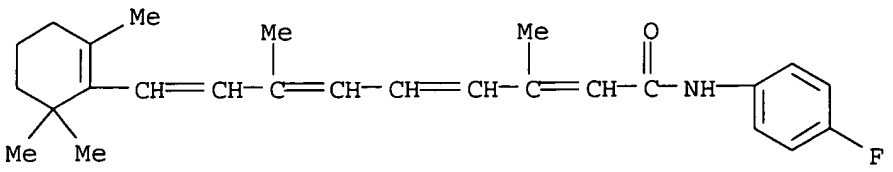
AB Seventeen carboxamides [I; R = e.g. morpholino (II), piperidino, cyclopropylamino, 1-adamantylamino, stearylamino, cyclohexylpropylamino, β-naphthylamino, NHC6-H3Me2-3,4, C6H4CO2Et-4, NHC6H4Cl-3 or -4] were prepared by reaction of I (R = Cl) with the amines RH. I were useful in the prophylaxis and treatment of neoplasms (no data). LD50 values were obtained in the mouse and rat. Thus, I (R = OH) was treated with SOCl2 in Et2O in the presence of pyridine to give I (R = Cl) which was treated with morpholine in Et2O to give 76% II.

IT **53839-67-1P 53839-68-2P 53839-69-3P**
53839-70-6P 53839-73-9P 53839-74-0P
53839-75-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

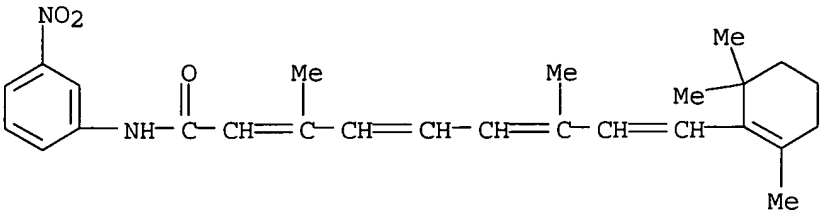
RN 53839-67-1 CAPLUS
CN Retinamide, N-(3,4-dimethylphenyl)- (9CI) (CA INDEX NAME)



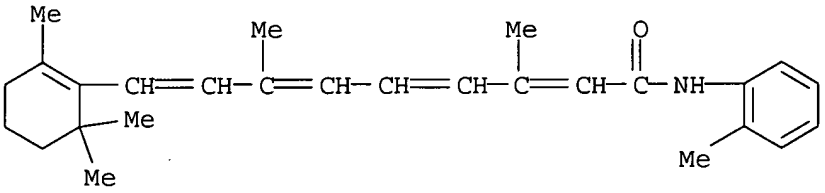
RN 53839-68-2 CAPLUS
CN Retinamide, N-(4-fluorophenyl)- (9CI) (CA INDEX NAME)



RN 53839-69-3 CAPLUS
CN Retinamide, N-(3-nitrophenyl)- (9CI) (CA INDEX NAME)

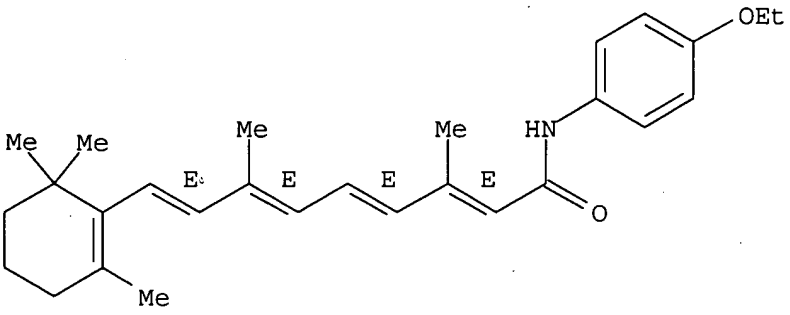


RN 53839-70-6 CAPLUS
CN Retinamide, N-(2-methylphenyl)- (9CI) (CA INDEX NAME)

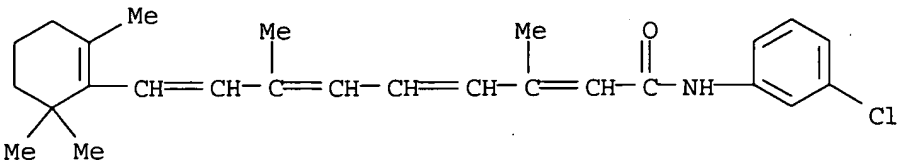


RN 53839-73-9 CAPLUS
CN Retinamide, N-(4-ethoxyphenyl)- (9CI) (CA INDEX NAME)

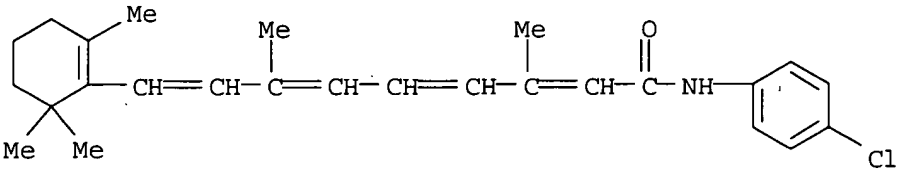
Double bond geometry as shown.



RN 53839-74-0 CAPLUS
CN Retinamide, N-(3-chlorophenyl)- (9CI) (CA INDEX NAME)



RN 53839-75-1 CAPLUS
CN Retinamide, N-(4-chlorophenyl)- (9CI) (CA INDEX NAME)



L11 ANSWER 76 OF 76 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1971:498697 CAPLUS
DN 75:98697
TI Pharmaceutical vitamin A acid amides
IN Bollag, Werner; Ruegg, Rudolf; Ryser, Gottlieb
PA Hoffmann-La Roche, F., und Co., A.-G.
SO Ger. Offen., 17 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
PI	DE 2102586	A	19710812	DE 1971-2102586		19710120
	DE 2102586	C2	19850314			
				CH 1970-1428	A	19700202
	CH 529742	A	19721031	CH 1970-529742		19700202
				CH 1970-1428	A	19700202
	FI 52715	B	19770801	FI 1970-3317		19701209
				CH 1970-1428	A	19700202
	NL 7018260	A	19710804	NL 1970-18260		19701215
	NL 168415	B	19811116			
	NL 168415	C	19820416			
				CH 1970-1428	A	19700202
	ZA 7100142	A	19711027	ZA 1971-142		19710111
				CH 1970-1428	A	19700202
	IL 35987	A1	19740114	IL 1971-35987		19710112
				CH 1970-1428	A	19700202
	FR 2081477	A5	19711203	FR 1971-3020		19710129
	FR 2081477	B1	19740322			
				CH 1970-1428	A	19700202
	CA 963910	A1	19750304	CA 1971-103975		19710129
				CH 1970-1428	A	19700202
	DK 136311	B	19770926	DK 1971-405		19710129
				CH 1970-1428	A	19700202
	BE 762345	A1	19710802	BE 1971-99238		19710201
				CH 1970-1428	A	19700202
	AT 303274	B	19721127	AT 1971-799		19710201
				CH 1970-1428	A	19700202

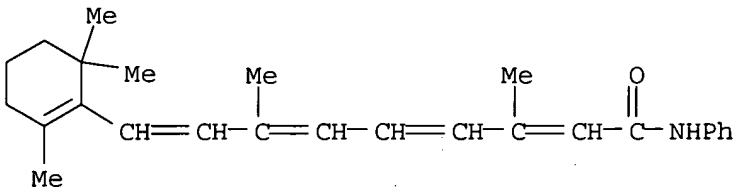
ES 387834	A1	19730601	ES 1971-387834		19710201
			CH 1970-1428	A	19700202
NO 133802	B	19760322	NO 1971-343		19710201
			CH 1970-1428	A	19700202
JP 54004948	B4	19790312	JP 1971-3562		19710201
			CH 1970-1428	A	19700202
SE 373133	B	19750127	SE 1971-1274		19710202
			CH 1970-1428	A	19700202
GB 1283887	A	19720802	GB 1971-1283887		19710419
			CH 1970-1428	A	19700202
US 3950418	A	19760413	US 1974-503559		19740923
			CH 1970-1428	A	19700202
			US 1971-106275	A1	19710113
			US 1973-354026	A3	19730424

AB The title compds. (I) were prepared from vitamin A acid chloride (II) and RR1NH. I were useful for carcinoma prophylaxis and dermatol. afflictions. Thus, II was added to EtNH2 in Et2O within 30 min to give I (R = H, R1 = Et), LD50 >4000 mg/kg orally in rats or mice. Similarly prepared were 14 other amides, e.g. I (R and R1 given): H, Me; Me, Pr; H, n-C10H21; H, CH2CH2OH; Ph. Ph.

IT **33631-48-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 33631-48-0 CAPLUS

CN Retinamide, N-phenyl- (9CI) (CA INDEX NAME)



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